

Expanding the Research Horizon in Higher Education:
Master's Students' Perceptions of Research Assistantships

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Abstract

This study explores how effectively current research assistantships impart research methods, skills, and attitudes; and how well those experiences prepare the next generation of researchers to meet the evolving needs of an ever-expanding, knowledge-based economy and society. Through personal interviews, 7 graduate student research assistants expressed their perceptions regarding their research assistantships. The open-ended interview questions emphasized (a) what research knowledge and skills the graduate students acquired; (b) what other lessons they took away from the experience; and (c) how the research assistantships influenced their graduate studies and future academic plans. After participants were interviewed, the data were transcribed, memberchecked, and then analyzed using a grounded theory research design. The findings show that research assistantships are valuable educational venues that can not only promote research learning but also benefit research assistants' master's studies and stimulate reflection regarding their future educational and research plans. Although data are limited to the responses of 7 students, findings can contribute to the enhancement of research assistantship opportunities as a means of developing skilled future researchers that in turn will benefit Canada as an emerging leader in research and development. The study is meant to serve as an informative source for (a) experienced researchers who have worked with research assistants; (b) researchers who are planning to hire research assistants; and (c) experienced and novice research assistants. Further, the study has the potential to inform future research training initiatives as well as related policies and practices.

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CHAPTER ONE: INTRODUCTION

Conducting research is a fundamental role of any university in the 21st century, for it informs teaching and reveals new knowledge to improve quality of life. Over the past years, the research environment in Canada has undergone significant change and universities are now recognized as the main catalyst for innovation and the generation of new ideas in Canada (Association of Universities and Colleges of Canada, 2008). The federal government has established new programs and made noteworthy investments to encourage a shift in Canada's research environment that is conducive to a knowledge-based economy. This shift will prompt new perspectives for research in Canadian universities and affect graduate student training.

The capacity to create and apply knowledge is a critical factor for expansion of a knowledge economy in Canada and it relies on the competence and expertise of highly trained researchers. Canada's dependence on future research talent requires special attention to understanding the process through which students become researchers at the critical stage of graduate education.

Many scholars affirm that research training in undergraduate and graduate programs involves more than taking research methods courses and completing a thesis, it involves participating in educational opportunities where students can connect course content to research practice (Anderson, 2003; Henderson & Martin, 2002). Scholars have extensively examined graduate research coursework (Takata & Leiting, 1987; Winn, 1995) and graduate thesis supervision (Grant, 2005; Wisker, 2005), but few have examined research assistantships as educational spaces where theory meets practice. Furthermore, the literature that does exist tends to focus on the development of doctoral

students and occasionally of undergraduate students, with almost no mention of master's students.

Research assistantships are one of the few opportunities for master's students to exercise their theoretical knowledge in a practical environment. Research assistantships provide a distinctive space where theory and practice come together and provide occasions for new researchers to be nurtured and shaped. Research assistantships may be described as cooperative and participatory environments where graduate students learn research by doing research (McWey, Henderson, & Piercy, 2006).

According to the *Ethical Standards of the American Educational Research Association*, educational researchers have a responsibility to present graduate student research assistants with educational experiences:

Educational researchers should ensure that research assistantships be educative....

In relations with students and student researchers, educational researchers should be candid, fair, non-exploitative, and committed to their welfare and progress.

They should conscientiously supervise, encourage, and support students and student researchers in their academic endeavors, and should appropriately assist them in securing research support or professional employment. (Strike, Anderson, Curren, van Geel, Pritchard, & Robertson, 2002, p. 152)

Ideally, research assistantships offer an opportunity for students to develop their learning and autonomy as researchers. Through research assistantship experience, it may be possible for master's students to build confidence, develop a thirst for knowledge, and become equipped to conduct independent research (Grundy, 2004). The question this research study will address is how effective are research assistantships in preparing

competent and confident researchers who are capable of actively participating in the evolving research landscape.

In an article that reviewed the relationships between graduate education and innovation, University of Toronto President David Naylor (2007) wrote, “we urgently need to drive up our output of master’s and PhD graduates to catalyze the growth of our knowledge-based industries” (p. A23). Naylor’s article is a tacit example of the unspoken acceptance of university culture as it pertains to graduate education and appears disconnected with the needs of innovation. What President Naylor has failed to acknowledge is that innovation is a complex combination of talented researchers, good ideas, institutional supports, and related infrastructure. It is not just a quantity issue, but it is also a quality issue. Looking at innovation as a process of achieving a positive change leading to increased productivity and therefore economic wealth, it is important to focus on how the process of innovation unfolds. Graduate students need to understand the process and value of creating ideas, researching ideas, transforming them into knowledge, and implementing the innovation. Graduating more master’s and doctoral students without the necessary skills and attitudes to flourish within a constant state of innovation is not the answer.

Universities can expand their research horizon by producing highly knowledgeable graduates who are equipped with essential research skills. The Association of Universities and Colleges of Canada (2006) indicates four interrelated “pillars” of university research that are essential for the success of the Canadian university research endeavour: (a) new ideas, which are fundamental to innovation; (b) talent in the form of high-quality researchers; (c) infrastructure; and (d) institutional

support to allow researchers to flourish. The development of future talented and competent researchers must be a priority as they are the ones who will assure the success of university research and Canada's place in the knowledge economy.

Despite the fundamental role of research in higher education, there seems to be very little research conducted and written about the position of master's student research assistants. The role of master's student research assistants is becoming more complex. They are expected to develop research skills and acquire tools necessary to become independent researchers, yet the research learning journey and overall fulfillment of research assistantships is seldom reported or evaluated. Referring to doctoral students, Pallas (2001) states, "There is scarcely a literature on the preparation of education researchers and graduate student research development represents a relatively new area of study in the educational literature" (p. 7). Pallas' statement accurately reflects not only the research preparation of doctoral students but also of master's students. In fact, this gap in the literature may be interpreted as undermining master's students' research training, which has implications for meeting the requirements for doctoral programs and the knowledge-based economy.

Purpose Statement

As graduate programs expand, the number of graduate student research assistants will increase as well. This expansion indicates the need to improve the existing practice of educating future independent and competent researchers who will be expected to lead research innovation. Through interviews with the participants, I have explored the perceptions of 7 graduate student research assistants regarding their research assistantships, with specific emphases on (a) what research knowledge and skills they

acquired; (b) what other lessons they took away from their experiences; and (c) how the research assistantships influenced their graduate studies and future academic plans.

The purpose of this research project closely reflects the Social Sciences and Humanities Research Council's (SSHRC, 2007) interest in examining new ways to improve the environments in which graduate students are trained. The project was designed to determine how effectively current research assistantships impart research methods, skills, and attitudes; and how well those experiences prepare the next generation of researchers to meet the evolving needs of an ever-expanding, knowledge-based economy and society.

The Researcher

I have worked as a research assistant since the time I began my Master of Education degree in September 2005. Throughout my part-time studies, I worked within different departments and I attended many workshops related to research, leadership, and other aspects of academic life. Through diverse experiences, I have acquired a spectrum of research skills, had opportunities to present at national and international conferences, co-authored multiple manuscripts for publication, and have become a published author. I am convinced that I could not have gained such rich experience solely from research methods courses. Lave and Wenger (1991) question verbal explanation as the only effective form of learning and state "If learning is about increased access to performance, then the way to maximize learning is to perform, not to talk about it" (p. 22).

Overall, research learning was a very gradual but extremely rewarding process for me. I would like to share with readers a small piece from my first publication about the first 2 years of my experience as a research assistant. I believe this will show the

abundance of research knowledge to which I was exposed, the lack of support I felt in some instances, and the ways that I began to question some aspects of those experiences and their contribution to my development as a researcher.

Initially, I perceived the position of RA as a very practical and beneficial experience for students as well as faculty members. I believed that graduate students engaged in projects would develop valuable research skills and could participate in research presentations and publications as a result of their efforts. In exchange, the principal researcher would secure the services of dedicated students (Strike et al., 2002). With time, I began to realize that the relationship between researcher and RA is not always such a fair collaboration.

My first projects involved tasks, such as photocopying, data entry, literature reviews, and transcribing. It was obvious to me that I had to start somewhere and with no previous experience I would not engage in analysis or interpretation of data. Initially, I was happy just to be involved in the project and have an opportunity to become a competent RA.

The next projects allowed me to be more fully engaged in the research process. I was helping with collecting data, entering data, coding, representing data visually, and statistical analysis. I was learning new skills but something was still missing. I did not feel a part of the team. It was clearly a time for reflection.

I realized that although I was engaged in a big part of the project I was never engaged in the final stage of the project. I was hired, I did my share of work, and then I was gone. Sometimes, I was interested in how the project would

proceed. I wanted to read the final paper or report. I also wanted to be recognized for my efforts.

Clearly, my RAships generated a broad spectrum of competencies where one task is not equivalent to the other. Conducting literature reviews and photocopying, I would categorize as minor assignments; however, creating annotated bibliographies or statistical analysis or report writing requires a higher level of skill and would seem to deserve a higher level of recognition. One might think that ownership and authorship would be adequately acknowledged and shared according to the contribution of the RA. Unfortunately, based on my experience, ownership and authorship are often subject to informal arrangements and the individual expectations of the primary investigator. Reflecting on my responsibilities and contributions to knowledge generation, I did not feel fairly recognized for the first two years working as an RA.

Generally, I was thrown into the water and expected to swim with little support. Learning was not gradual; it was all over the place, from photocopying to statistical analysis. My lack of familiarity with statistical analysis coupled with the lack of training forced me to invest more time than I was contracted to do. There was little training offered; I had to rely on my abilities to develop the necessary skills. There was no group of researchers and because of the time constraints there was little time for discussion or to go beyond the actual duties of the job. I was rarely able to hear about the entire project. I often felt that I was disconnected from the context in which the research existed and I wonder how my

experiences influenced my development as a researcher. (Niemczyk & Hodson, 2009, pp. 284-285)

For the past 3 years, I have been working on the research project that inspired me to carve a part of it as my research thesis. I engaged in the project right after the project was approved and funded. This allowed me to participate in every research step undertaken and expand my research knowledge. Throughout the project, my research supervisor made a space to explain each task or activity we would engage in and its significance in the overall research study. We had many meaningful conversations about conducting the study as well as many side conversations that led to my understanding of graduate work and other aspects of academic life. Acquiring this knowledge allowed me to navigate and make informed decisions about my master's studies as well as begin to formulate doctoral plans. I was offered the opportunity to present at an international conference and to co-author two papers. This research assistantship was highly educational; I became more confident in my research skills and it made me feel prepared to conduct this research thesis. These varied assistantships made me wonder how representative are my experiences and whether institutions sufficiently prepare master's students for the research and innovation needs of society.

Scope and Limitations of the Study

The scope of this study was limited to 7 master's student research assistants within the Faculty of Education at an Ontario University. The participant pool was restricted to those who were interested and available to participate in my study during the data collection period. This added a difficulty in finding participants who would represent a variety of backgrounds and perspectives. Further, I recognize that participants who had

negative experiences were less likely to participate in my study. They might have been concerned that sharing their experiences would make them vulnerable and compromise their graduate studies.

Originally, I planned that, should student interest in participating be higher than expected, I would consider the following criteria: (a) gender – to allow both genders to share their voices; (b) background – to be inclusive of different cultures; and (c) timing – to attend to the scheduled timeline for the research study. While my original intention was to have 10 participants, 7 participants showed interest in participating within the scheduled timeline.

This study is further limited in that it relies exclusively on a single interview with each participant. The views of research participants were based on their immediate situation without a chance for further interviews over time, which could have provided deeper insight from participants' reflections or novel events. "Like a snapshot, interviews provide a picture taken during a moment in time" (Charmaz, 2005, p. 529).

Although, this is an example of a micro-research environment at one university, it may reflect the realities of other comprehensive institutions as all research micro-environments are shaped by the evolving national and global research landscape.

Importance of the Study

Educational research is recognized nationwide as a critical aspect of success in higher education. Graduate students are the next generation of researchers and scholars who will direct the future of universities and other workplace sectors. Therefore, it is vital to prepare them to become independent researchers. Investing in the training and development of graduate students is fundamental to their competence and confidence as

researchers. It is necessary to create research environments that are beneficial to graduate student training and development.

Universities have a responsibility to advance the development of new knowledge and to play a productive role in societal well-being. Innovation and knowledge production have an increasing value to all nations and a financially measurable value to universities. It is important to recognize the significant contributions master's students make to the research enterprise. The researchers guiding students are an important source of knowledge and talent to which research assistantships may be exposed. Research assistantships provide practical experiences where students can develop research skills and confidence.

The evolving Canadian research landscape calls for a re-evaluation of the role research assistantships play in master's studies to identify research-informed practices that support the development of future researchers. This study provided an opportunity for 7 master's students to voice their experiences as research assistants. Subsequent chapters will explore how this thesis research uncovered participants' perceptions regarding what they learned during their research assistantships and how those lessons and overall experiences influenced their graduate studies and future academic plans. Overall, the participants reported that they had positive research assistantships, however, in a few instances, participants discussed circumstances that left them feeling discouraged and disappointed.

This thesis presents an informative source for current and future students and faculty members recruiting research assistants for their projects. Both groups will have a chance to reflect and consider how to collaborate in research assistantships and what

practices to utilize in order to make research assistantships most effective for both research partners. The study has the potential to inform future research training design as well as related policies and practices. Finally, this study contributes to the slim body of currently available literature related to the development of future researchers.

Organization of the Document

Chapter Two consists of a literature review presented in three subsections to reflect the evolving global and national research landscape that shapes the research environment at universities. Chapter Three is dedicated to the research design, theoretical starting points, pilot study, participant selection and ethical considerations, the participants, data collection, and data analysis employed in this thesis. Chapter Four describes the themes that emerged during qualitative data analysis. In order to facilitate the reading of my findings, I divided the findings section into three parts: (a) background; (b) core experience; and (c) looking forward looking back. This sequential organization of the findings section aims to enhance readers' understanding of the participants' expectations and research skills prior to engaging in research assistantships, the most important aspects of the actual research assistantship experiences, and participants' future educational and research plans based on their reflections looking back at their research assistantship experiences. Chapter Five concludes the thesis with a discussion of the findings. It is a summary of the study that provides reflections and recommendations based on the voices of the participants and connections to the published literature.

CHAPTER TWO: LITERATURE

This literature review is organized in three subsections to reflect the evolving global and national research landscape that shapes the research environment in higher education institutions. The first subsection describes rapid changes that have influenced the current state of the global research landscape. The second subsection explains Canada's shift to a knowledge-based economy and the need for a research environment that adapts, complements, and reflects the globally evolving research landscape. The last subsection focuses on the evolving research landscape in higher education and how it affects the role of master's student research assistants.

Global Research Landscape

Research and innovation are essential to a knowledge-based society as is the development of the next generation of researchers across all disciplines. Governments are paying increased attention to the creation, acquisition, and communication of knowledge. As Mulford (2005) states, "The educational research arena is increasingly one of international and national focus" (p. 141). Hobson, Jones, and Deane (2005) assert, "Australia's future success as a globalized knowledge economy, together with its wealth generation, lies firmly in the hands of researchers and their capacity to generate knowledge" (p. 357).

Rapid changes in science and technology, and the never-ending search for the lowest production cost of goods and services have been the main factors to transform the 21st century research landscape. The majority of goods traded today did not exist a decade ago. The production and trade of knowledge-intensive goods have increased significantly, and information technology and computer-based production have made economies very competitive. The improvement of research capability is a core

component of the European Union's drive to become the most competitive and dynamic, knowledge-driven economy (Government of Ireland and Department of Enterprise, Trade and Employment, 2006). Rae (2005), in his recent report, said:

Industrial societies all over the world are considering how to improve higher education. China and India are investing unprecedented amounts in their postsecondary institutions and research. The United Kingdom has just completed a major public policy debate on the issue and has recently announced three-year commitments for funding to universities and research councils. (p. 7)

Recognizing the importance placed on research in most societies and across most disciplines is an important part of research development for it is necessary to meet the challenges as well as the opportunities presented in this rapidly evolving research landscape.

Canada's visible commitment to wealth creation depends on the capacity to generate new knowledge. The result of this changing research landscape is the appearance of a new type of university, the research university. In this type of university, research activity is critical and graduate students assume a central role in the financing and the stability of the university structure. Learning to conduct research and the ongoing development of researchers are central to the mission of postsecondary institutions. This mission can be accomplished only by supporting development and creating opportunities that foster the conditions that influence innovation.

A new research environment is emerging thanks to the use of modern social networking tools in academia and the development of a cyberspace culture that has affected many aspects of higher education. Social networking is powerful in the ways that

it is changing how people communicate, collaborate, share knowledge, and create new intellectual capital in communities of scholarship. To support these changes, governments, universities, and research granting agencies have to ensure that knowledge is created and the results are shared at the national and international level (Vincent-Lancrin, 2006).

The priorities and focus of research over the past decades have changed as research has evolved. “It is clear that the focus of research is determined by the interplay of three constituencies: those who fund it, those who provide the principal audiences for it, and those who carry out the research” (Foskett, Lumby, & Fidler, 2005, p. 247). Furthermore, in recent years, the equilibrium of power between those three groups has shifted.

The autonomy of researchers to identify their own priorities has been displaced by an increasing prioritization on funded research in all accountability measures, accompanied by a narrowing of the range of potential funders and their almost unanimous emphasis on the contribution of research to practice. (Foskett et al., p. 249)

The growing importance of research grants has transformed the relationship between academics and the federal government. This transformation can be seen to be more of an obligation than an option. Granting agencies are viewed less as resources and more as judges that assess the worth of academics and their area of research (Foskett et al.). In the past, academics were under less pressure to apply for funding. In the present, successful research applications affect promotion and tenure, especially for new faculty.

These changes have resulted in an academic landscape for students, faculty, institutions, and society itself that differs markedly from that of the past. Gumpert and Zemsky (2003) described changes in higher education, institutions' research agendas, and the roles of faculty over the last decades. The authors recognize that the higher education landscape has changed significantly and call for more research in the area.

Global university rankings are used to compare institutions at the national and international level. According to Marginson and Van der Wende (2007):

Cross-border flows, relations, cooperation, and competition have become essential dimensions of national policy making and of the strategic apparatus of executive and disciplinary leaders in individual higher education institutions (HEIs). With global university rankings, especially the global ranking of research performance, higher education itself has entered an era of open global competition between nations and between individual HEIs as global actors in their own right. (pp. 306-307)

Global rankings are signs of the global changes that are taking place in higher education and show the importance of university research innovations and strategic investments. They also indicate that Canada must concentrate further on research and graduate research training.

Canadian Research Landscape

The pressures of contemporary global economics have relentlessly reshaped the Canadian economy. As heavy industry and manufacturing continue to move into developing nations in the never-ending search for the competitive edge, Canada has increasingly shifted into a knowledge-based economy. Globalization, the knowledge

economy, and rapid technological changes have transformed the very foundations of Canadian society. As such, Canadians need to understand how to adjust to a changing world. This understanding can be achieved through the knowledge generated by the research community. A recent report from the Conference Board of Canada (2006) sees innovation as:

Critical to environmental protection, to a high-performing education system, to a well-functioning system of health promotion, disease prevention and health care, and to an inclusive society. Without innovation, all these systems stagnate and Canada's performance deteriorates in comparison with that of its peers. (p. 2)

Rae (2005) believes that research and innovation are central to the Canadian economy: "Every society has relied for its survival on the transfer of skills and abilities from generation to generation. What is new is the level and breadth of knowledge and skill required to make our way in the world" (p. 6).

Over the past decade, the government of Canada has made major investments to support academic research excellence in order to promote and enhance Canada's capacity to innovate and compete globally (SSHRC, 2007). On the same note, Polster (2007) states:

Over the last 20 years, the Canadian government (as most governments of western countries) has progressively come to see the university as a key instrument of national competitiveness in the global knowledge economy. Accordingly, it developed a number of policies to help universities fulfill this role, including those that promote investment in targeted research areas, the cultivation of centres of excellence, and the commercialization of academic knowledge. (p. 601)

Similarly, the Association of Universities and Colleges of Canada (2008) links the importance of investing in university research to the creation of new knowledge and increases in productivity. Canadian universities conduct more than one-third of Canada's annual research effort and they are the major producers of research that promotes economic development (Lambert-Chan, 2008). Recognizing this connection between higher educational achievement and economic growth, in 2007, approximately \$29 billion were invested in research in Canada. The private sector invested an estimated \$13.8 billion in research and development (47.8% of Canada's overall research funding) and the federal government invested an estimated \$5.4 billion (18.8% of Canada's overall research funding). Canada's three main federal funding agencies are the Natural Sciences and Engineering Research Council (NSERC), the Canadian Institutes of Health Research (CIHR), and the Social Sciences and Humanities Research Council (SSHRC). These agencies play an important role in investing in institutions of higher education where the generation of knowledge and development of new talent occur. Private and federal investments not only generate new knowledge, they also provide the impetus and opportunity to hone the talents and skills of the next generation of Canadian researchers.

Responding to changes in the research environment, SSHRC has repositioned itself from a granting council to a knowledge council (SSHRC, 2005). SSHRC recognized that the previous model for supporting research did not entirely meet the needs of the present university research community. Although, the previous model had a substantial impact on diverse disciplines and fields, it had limited influence on the lives of Canadians. The previous model did not foster collaboration and interactions between disciplines and researchers.

SSHRC's 2006-2011 Strategic Plan presents an expanding role for the agency consistent with a shift to a knowledge council (SSHRC, 2005). This strategic shift complements the ongoing expansion of knowledge-based economics in Canada, as well as the increased focus on applied research and the integration of new knowledge within society. There is also an increased recognition of the value of multidisciplinary research and of collaboration between researchers, the researched, and research users through mobilization and knowledge transfer.

This new vision is not just an exercise in the subtleties of semantics but rather a significant strategic shift that parallels the ongoing expansion of knowledge-based economics in Canada and an increased focus on the application of research that demonstrates a "deeper concern for the impact of research—the important and often undervalued social, economic and cultural 'outputs'" (SSHRC, 2005, p. 5). With this strategic shift comes an increased emphasis on interdisciplinarity, multinational teams, and alternative methodologies that engage communities as active partners in the research enterprise. Positioned as a knowledge council, SSHRC also stresses the importance of enhanced research capacity, and the increased and rapid mobilization of knowledge to strengthen the social fabric of Canada.

The priorities outlined by SSHRC for 2007-2008 closely reflect the four pillars listed by AUCC (2008) as key elements for the success of Canadian university research. SSHRC priorities include investing in social sciences and humanities research excellence in Canada, supporting high-quality research training, and ensuring effective research environments. SSHRC's main clients are 19,000 full-time professors representing 53% of all full-time faculty in Canadian universities and 49,000 full-time graduate students, or

55% of all full-time graduate students (SSHRC, 2007). Universities are major producers of the research that fuels economic development. They are the only sector to perform research for all other sectors, across the full range of disciplines and with a significant presence in all regions. In 2007, Canadian universities conducted over \$10 billion worth of research, which accounts for approximately one third of Canada's annual research effort. Canada currently leads the G-7 in investments in public-sector research (AUCC, 2008). Canada's leadership in this area is due in large part to federal investments in discovery and creation; in developing, attracting, and retaining research talent; in state-of-the-art infrastructure; and in the institutional costs of supporting research excellence (AUCC, 2008). These numbers strongly illustrate the leadership role SSHRC and AUCC have taken in supporting higher education research.

The capacity for innovation is important to developed countries for it has an enormous impact on national performance and strongly influences quality of life. During his presentation at the Ontario Educational Research Symposium (2007), Stan Shapson, Vice-President, Research and Innovation at York University, stated "Every country presses to upgrade its capacity for innovation.... We can't stop the world and get off; we have to respond to this global change" (p. 80). Shapson emphasized that Canada can no longer rely on raw resources to sustain the economy; we must engage in innovation:

We have to recognize that the production of new knowledge and its innovative application is the currency of future competitiveness. As educators, we have a major part to play in this movement: we need to focus more deliberately on intellectual capital, research and innovation. (p. 79)

Over the last several years, Canadian universities have placed strong emphasis on building a research environment that adapts, complements, and reflects the globally evolving research landscape. Each university effectively becomes a micro-environment that is partially defined by size, teaching expertise, and research focus. This emphasis is based on multilevel beneficial results involving the betterment of the economy and society, recognition that research opportunities are vital in attracting highly talented new professors to the university, and the knowledge that good research can enrich classroom instruction. Universities are taking up the responsibility to advance the development of new knowledge in order to play their most productive societal role (AUCC, 2008).

Clearly, global forces have influenced the Canadian research environment. The innovation strategies proposed by leading funding agencies emphasize the importance of knowledge generation, dissemination, and application to the benefit of Canadians. Increased federal funding to granting councils as well as new research structures such as Canada Research Chairs, the Canadian Foundation for Innovation, and the Canadian Institutes of Health Research reflect the evolving research landscape in Canada. As the global landscape continues to evolve to favour knowledge-based economics and innovation, private and public funding will surely only increase the amount of research undertaken at universities. With this new research landscape comes emergent pressures that will require alternative responses and will demand new tools, new skills, and new approaches to training upcoming researchers.

Graduate Education and Research Development

SSHRC is instrumental in supporting research and researchers in the social sciences and humanities, serving mostly university-based researchers and graduate

students. Over 50 percent of graduate students at Canadian universities work in social sciences and humanities disciplines. “These graduate students represent a rich pool of developing expertise, and are the future creators, interpreters, critics and communicators of expert knowledge” (SSHRC, 2007, p. 10). Priorities for SSHRC’s 2007-2008 strategic plan include an ongoing commitment to building knowledge and expertise, and to supporting research excellence through high-quality, effective research training and assistance for faculty researchers. Through fellowships, scholarships, stipends, and research assistantships, SSHRC supports research training for master’s and doctoral students who are the research leaders and decision makers of tomorrow.

The future development of Canadian research depends on the creation of new scholars. This is particularly evident given the circumstances of major faculty renewal in Canadian universities. Studies demonstrate that by 2020 there will be a demand for 30,000 new faculty, yet the Canadian postsecondary education system is not producing enough replacements (Vincent-Lancrin, 2006). In addition, a large number of new graduates leave academic life for better paying jobs elsewhere. Where the replacements will be found is uncertain. Many of those retiring are experienced researchers and mentors. In order to prepare graduate students to take leadership roles in academia, it is necessary to enhance their research skills and facilitate their identity formation as researchers.

The evolving research landscape in higher education results in a more complex role for master’s students as research assistants. All research partners—scholars, students, institutions, and funding agencies—recognize the potential and importance for mutually beneficial outcomes when graduate students work as research assistants (McGinn,

Niemczyk, & Lovering, 2010). According to Pearson and Brew (2002), research assistantships should be beneficial for students and faculty members. Students engaged in research assistantships can have opportunities to gain valuable experience while accumulating research presentations and publications to show for their efforts. In exchange, faculty enjoy the contributions of dedicated students who enhance their research output.

Developing the research skills of the next generation of researchers is fundamental to an innovative, successful, and well-educated society. Researchers are leaders who are competent and capable to think critically, communicate effectively, and implement ideas productively. Strong social science researchers are needed to face the social changes and challenges of today and tomorrow. Nicolas (2008) describes doctoral students as future creators of knowledge and states: “researchers-in-the-making are by far the most important ‘vehicles’ for the transfer of university research to society” (p. 10). Miller and Salkind (2002) argue, “There are no shortcuts in becoming a competent researcher. It involves a great deal of time and practice in every sense of the word. An increasing number of experiences in different settings leads to enhanced competence” (p. 15).

Brock University’s Strategic Research Plan, 2006-2011 demonstrates a commitment to the full integration of graduate students within the research environment (Brock University, 2006). The Strategic Research Plan supports the university’s transformation process from a mainly undergraduate teaching university to a research-intensive university. With this transformation, the importance of training graduate students and creating research partnerships between faculty and graduate students

increases significantly. Through engagement in research assistantships, master's students can provide the intellectual and human resources necessary to support research-intensive faculty who in return can mentor and share knowledge as well as skills vital to the development of these new researchers.

Jack Lightstone, President of Brock University, has on many occasions commented on the remarkable growth that Brock has experienced over the past several years as a result of a strategic direction to expand graduate programs and intensify research and scholarship. He has also emphasized the vital role of faculty as researchers and educators who share their knowledge and expertise to foster the development of new researchers. In a 2009 commentary, Lightstone emphasized that "Canada needs more researchers, not fewer" (p. A15) and expressed the need for more people with postgraduate degrees in order to maintain national competitiveness.

Grundy and McGinn (2007) used Lave and Wenger's (1991; Wenger, 1998) learning theories to frame the analyses of the experiences of 3 student research assistants working in a Faculty of Education. Using a qualitative approach, they focused on six common research tasks in which the students engaged, investigating the learning experiences of these 3 students and their identity development as researchers. All students participated in more than one research assistantship and indicated "the most beneficial and meaningful research learning experiences as those where they (a) worked on tasks that engaged them intellectually, and (b) were able to contribute significantly to the research process" (p. 10). Furthermore, the results specify that doing meaningful research tasks contributed to the students' confidence in their research competence and identity formation as capable researchers. Based upon their results, they concluded, "it

appears that research assistantships are viable sites for students to learn about research that provide an important complement to learning in formal courses and independent thesis research projects” (p. 10).

Similarly, McGinn et al. (2010) found that an educative research assistantship contributed to transforming a graduate student from a research assistant into a researcher. The study investigated the educative potential of a research assistantship with one graduate student who was actively involved in the entire research process (from the design of the study to the dissemination of results) for an 8-month period. The results of this study show that the research assistant, working alongside an experienced researcher, learned what it is like to do research, acquired valuable research skills, and developed the self-confidence to conduct independent research. Furthermore, the research assistantship offered the student opportunities conducive to the pursuit of further graduate work or an academic career. “She received scholarly credit as a co-author and co-presenter, thereby providing entries for her curriculum vitae and evidence of her scholarly productivity that were no doubt considered in decisions regarding doctoral admission, scholarship applications, and so forth” (p. 22).

Such positive results are not always the norm. Hobson et al. (2005) reported limited recognition for the significant role of research assistants in knowledge production within the current research landscape of Australian universities. The authors explain the ambiguous status of research assistants and the diverse tasks they undertake, from photocopying to assignments requiring analytical expertise. According to the authors, research assistants represent a low-paid workforce, vulnerable to intellectual exploitation,

where aspects of ownership and authorship are often subject to informal arrangements and expectations.

There is increasing recognition of the importance of supporting and encouraging students' development as researchers. According to the *Ethical Standards of the American Educational Research Association* (Strike et al., 2002), researchers should commit to the support, welfare, and progress of student researchers during their academic journeys. Moreover, researchers have obligations to nurture, provide proper training, and ensure the competence of novice researchers. These standards illustrate researchers' obligations to train and educate graduate student research assistants. However, responsibility in the relationship between a researcher and a student is not one-sided. Students have responsibilities toward researchers and a duty to adhere to the ethical dimensions of research.

Summary and Final Thoughts on the Literature

I decided to present my literature review in three subsections to portray how evolving global and national research landscapes have shaped the research environment in Canadian institutions of higher education. I believe it is helpful to realize how the pressures of contemporary global economics have reshaped the Canadian economy into a knowledge-based economy. Globalization, the knowledge economy, and rapid technological changes have transformed the very foundations of Canadian society and universities need to understand how to adjust to this changing world.

The Canadian government progressively recognized universities as key instruments of national competitiveness in the global knowledge economy. This recognition led the government to increase their financial investment in university

research, which in turn changed the higher education research landscape resulting in a demand for new tools, new skills, and new approaches to training master's and doctoral students. Rae (2005) aptly captured the idea of the evolving research landscape when he said that every society transferred skills and abilities from generation to generation, however the level and breadth of knowledge and skill required in the present society and the current research environment are considerably amplified. The graduate students of today are the research leaders and decision makers of tomorrow. The future development of Canadian research depends on the creation of new scholars. As such, it is necessary for universities to enhance the research skills of graduate students and to facilitate their identity formation as researchers.

CHAPTER THREE: METHODOLOGY AND PROCEDURES

The purpose of this study was to qualitatively examine 7 graduate student research assistants' perceptions about their research assistantship experiences. Through personal interviews, participants shared their stories providing insight on how effectively current research assistantships impart methods, skills, and attitudes; and how well those experiences prepare the next generation of researchers. This chapter presents the research design, theoretical starting points, pilot study, participant selection and ethical considerations, the participants, data collection, and data analysis employed in this thesis.

Research Design

This qualitative research study employed a grounded theory design to capture the experiences of master's students who are often marginalized in the literature, which emphasizes doctoral experiences. The choice of research design was based on a desire to discover theory through gathering information from individuals who experience the phenomenon being studied.

Grounded theory provides a means for generating a theory "grounded" in the participant's views rather than using an existing theory, it offers a step-by-step procedure for conducting the design, and it enables an inquirer to let the study emerge through analysis close to the data. (Creswell, 2002, p. 462)

Charmaz (2005) indicates that grounded theory methods consist of simultaneous data collection and analysis, with each informing and focusing the other throughout the research process. Through constant interaction between data collection and data analysis, I have strived to build theory faithful to the evidence (Neuman, 1997). Face-to-face interviews were employed to allow participants' self-expression, to gather rich detail, to learn what participants think and feel, and to probe and clarify responses. The

participants voiced suggestions on how to enhance their research assistantships and therefore advance the preparation of confident and competent researchers.

Theoretical Starting Points

This research study was not designed to check existing theories or hypotheses, but to generate theory grounded in data. According to Creswell,

In a qualitative study, one does not begin with theory to test or verify. Instead, consistent with the inductive model of thinking, a theory may emerge during the data collection and analysis phase...or be used relatively late in the research process as a basis for comparison with other theories. (cited in Anfara & Mertz, 2006, p. xxii)

Charmaz (2005) re-examined grounded theory of the past and explained that researchers' past interactions and present interests are part of the research they conduct:

Grounded theory studies emerge from wrestling with data, making comparisons, developing categories, engaging in theoretical sampling, and integrating an analysis. But how we conduct all these activities does not occur in a social vacuum....What we know shapes, but does not necessarily determine, what we "find." (p. 510)

LeCompte and Preissle (1992) indicated that some researchers avoid an initial description of theory because they feel compelled to generate theory only from the data collected in the study rather than using existing theories to inform the inquiry process; however, the authors argue that no research is conducted in a theoretical vacuum. In agreement with this statement, I suggest that it is impossible not to be affected by

previous assumptions in a particular research area and it is crucial to address them as they may affect planning and the direction of a study.

The theoretical framework that informed this study derives from Lave and Wenger (1991) who argue that learning is a process of participation in communities of practice. Lave and Wenger place emphasis on the whole person and situate learning in certain forms of social co-participation. They are interested in understanding what kinds of social engagements provide the right context for learning to occur.

On the one hand, [social engagement] implies a highly interactive and productive role for the skills that are acquired through the learning process. The individual learner is not gaining a discrete body of abstract knowledge which (s)he will then transport and reapply in later context. Instead, (s)he acquires the skills to perform by actually engaging in the process, under the attenuated conditions of *legitimate peripheral participation*. (p. 14)

Lave and Wenger portray legitimate peripheral participation as a particular way of engagement where a learner participates in the actual practice of an expert but only to a limited degree initially and with limited responsibility for the final result. Learning is distributed among co-participants and it is not a one-person act. “Learners, inevitably participate in communities of practitioners and the mastery of knowledge and skills requires newcomers to move toward full participation in the socio-cultural practices of a community” (Lave & Wenger, p. 29).

Legitimate peripheral participation is about the process by which newcomers become part of a community of practice and eventually become full participants. Recognizing legitimate peripheral participation in this research study implies that

research assistantships can provide space for the successful development of aspiring researchers. Master's student research assistants working alongside experienced researchers may have opportunities to become part of a research community. Through collaborative engagement in research and the shared construction of knowledge, students not only engage in learning research skills and generating intellectual capital but most importantly, they can also begin the transformation toward becoming independent researchers. Although, I am influenced by this theory, I will go beyond this general theoretical foundation to look for specific theoretical considerations grounded in my research data.

Pilot Study

Prior to my thesis research, I conducted a pilot study as an assignment for one of my master's degree courses, Qualitative Methods in Educational Research. van Teijlingen and Hundley (2001) encourage researchers to report pilot studies and explain how they affect, and where relevant, improve upon the main study. The reasons van Teijlingen and Hundley provide for conducting pilot studies include: assessing the likely success of proposed recruitment approaches, assessing the proposed data analysis techniques to uncover potential problems, and training the researcher in as many elements of the research process as possible. The purpose of my pilot study was to explore one master's student's perceptions about her research assistantship. In reporting my pilot study, I included methodological reflections that referred to lessons I learned during the research process.

My first, face-to-face interview was a rich experience and a great practice before engaging in my thesis research. Conducting the pilot study allowed me to evaluate my

research approach and the questions I designed in order to be better prepared for conducting the main study. In fact, the open-ended questions as well as the findings from the pilot study were useful in reshaping the interview questions for the thesis. For instance, for this thesis, I added interview questions related to learning beyond research. This question was not part of the open-ended questions designed for the pilot study, but the lessons that the pilot participant described from her research assistantship convinced me that it would be important to ask all participants what they learned not only about research but also about topics that were not specific to research. Further, during the pilot study, I asked if the participant felt like a researcher because of the research assistantship. Seeing the participant's struggle to identify as a researcher, I decided to focus on the action, that is, on the research learning process, rather than prompting participants to admit whether they perceive themselves as researchers or not.

The pilot study allowed me to practice my interview skills and familiarize myself with conducting qualitative research using a grounded theory approach. Roulston, deMarrais, and Lewis (2003) state that the most effective way to learn how to interview is by doing and that "with appropriate guidance, novice interviewers can develop more effective interviewing skills" (p. 662). Prior to conducting the pilot, my interviewing skills had been acquired through transcribing the interviews of others. Transcribing the interview conducted for my pilot study was an effective learning experience that led me to evaluate my strengths and weaknesses as an interviewer.

Data analysis was the most crucial learning aspect of my pilot study. I agree with Ball (1990) who refers to qualitative research as "a plunge into the unknown" (p. 157) and Erickson (1986) who compares it to learning how to swim by being thrown into a

pool. Coding was definitely one of the most difficult, yet significant steps that I undertook to organize and make sense of data I collected. “What coding does, above all, is to allow the researcher to communicate and connect with the data to facilitate the comprehension of the emerging phenomena and to generate theory grounded in the data” (Basit, 2003, p. 152). To move from coding to interpretation, I considered different ways of connecting and relating identified codes. Having the opportunity to practice this type of analysis in the pilot study facilitated the data analysis process for my thesis research.

The experience I gained during the pilot study also made me realize the value of incorporating quotations to centre the voice of the interview participant while maintaining confidentiality. Further, it made me aware of how to approach revealing quotes. As a result, in my thesis research when there were too many identifiers in the data, I paraphrased the meaning and excluded quotes.

For me, the pilot study was a form of legitimate peripheral participation. I had the opportunity to work through all aspects of the planned thesis study on a small scale (with just one participant) I was able to assess my plans for recruitment, data collection, data analysis, and report writing and I was able to practice all these activities (van Teijlingen & Hundley, 2001). This allowed me to reflect about possible changes and improvements for the final thesis study, and I was able to benefit from the feedback and suggestions for the course instructor who graded that initial assignment.

Participant Selection and Ethical Considerations

Once clearance from the Research Ethics Board was granted (see Appendix A), participant recruitment began. In order to minimize any feeling of coercion, I asked the Administrative Assistant responsible for the Master’s Program and the Research Officer

for the Faculty to send a brief message of introduction on my behalf, via email, to master's students in the Faculty of Education. This recruitment strategy (a) eliminated participants' potential feelings of coercion since I was a fellow student and (b) facilitated access to the targeted group of participants in a confidential manner. A letter of invitation for the study was attached to the email (see Appendix B). The message included eligibility criteria as well as contact information for students who might be interested in participating in my study. Eligible graduate students were those who had engaged in one or more research assistantships.

In agreement with the *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans* (TCPS; CIHR, NSERC, SSHRC, 1998) and the ethical standards of the American Educational Research Association (Strike et al., 2002), potential participants were notified about the benefits and risks of the study in order to make an informed decision about participation.

The possible benefits of participation included the opportunity for participants to tell their research assistantship stories and express their thoughts regarding those experiences. Through the final results of this research study, I explained that participants were expected to be able to learn about diverse research assistantship experiences. I expected that familiarity with the research assistantship experiences of other participants might stimulate students' further reflection about research assistantships and allow students to assess their own experiences from a new perspective.

There was a possibility that research assistantships could have been a negative experience for some of the participants, therefore, they could have felt discomfort or been upset talking about some aspects of their experience. According to the individual

situation, I committed to mitigate any participant's potential discomfort by changing the direction of the conversation or proposing a break. Although none of the participants showed discomfort or required support working through any challenging circumstances faced during a research assistantship, I was prepared to direct individuals to relevant university policies (e.g., the Respectful Workplace and Learning Environment Policy, Ownership of Student Created Intellectual Property Policy) and appropriate resources and supports (e.g., the department chair, personal counselling through the Student Development Centre, the Human Rights and Equity Office, the Student Ombudsperson, or a Research Ethics Officer).

Upon receiving electronic agreements to participate in my study, I proposed potential dates for an interview, informed the individual about the location, and offered clarifications about any aspect of the study. It was my priority to provide participants with details regarding all components of the research study so that they could make an informed decision as to whether to participate or not. Furthermore, the participants were provided with an information letter and consent form (see Appendix B and C) prior to beginning the interview session. Before engaging in each interview, I explained the process of recording and reminded the participants about their right to withdraw from the study at any time.

After the invitations were sent to potential participants on my behalf, I decided to expand my original recruitment strategy in an attempt to increase the response rate. I submitted a request for modification to my ongoing research study to the Research Ethics Board asking for permission to post flyers (an abbreviated form of the invitation letter, see Appendix D) in several locations frequented by MEd students, such as in front of the

office of the Faculty of Education Research Officer, in the hallway outside the department office, and near the Graduate Student Association office. I also contacted professors who were offering MEd courses that term and asked them to distribute the letter of invitation to their students.

Initially, the desired sample size was 10 participants. However, the constraints of academic timelines limited the amount of time that could be dedicated for recruitment and data collection. Seven participants responded to the recruitment measures and the study went forward. The face-to-face interviews were conducted on the university campus at times convenient for the participants.

As a token of appreciation to compensate participants for their time and contribution to my study, I offered them a \$20 gift card. Participants had a choice between a gift card to Tim Hortons or Chapters. They received compensation after the interview and were notified that they could keep the reward even if they later decided to withdraw from the study.

The Participants

My participants were master's students from the Faculty of Education. Five of them had one research assistantship experience and two had engaged in three research assistantships with different professors. They were all females with diverse cultural backgrounds (4 White, 2 Chinese, and 1 West Asian). Six of the participants were full-time students and one was a part-time student. Four participants had completed their coursework and were working on their exit requirements; three participants were close to completion of their coursework and were developing their research projects.

To maintain confidentiality, each participant was asked to choose her own pseudonym. This was also intended to make it easier for participants to identify themselves in the thesis. The following are the pseudonyms selected by the participants: Katerina (Interview 1); Allison (Interview 2); Gwendolyn (Interview 3); Julie (Interview 4); Lisa (Interview 5); Sheila (Interview 6); and Nikka (Interview 7).

Data Collection

I conducted seven face-to-face interviews with master's students from the Faculty of Education who had completed one or more research assistantships. My choice of engaging students from the Faculty of Education was primarily influenced by my familiarity with this discipline. However, I did consider Education's priorities compared to other disciplines. Unlike some other disciplines, educational research is directly connected to the field. In fact, education scholars focus on their roles as educators and undertake research relevant to educators' needs and the needs of those they educate. It therefore makes sense to consider the educational potential of research assistantships within Education.

The interviews were loosely structured around five open-ended questions:

1. *How would you describe research assistantships based on your experience?*
2. *What activities did you engage in and how did they contribute to knowledge generation?*
3. *How have your research assistantship experiences contributed to your research learning process?*
4. *What did you learn during the research assistantships beyond the research?*
5. *What are your future academic plans and do these plans include research?*

Throughout the interviews, I asked open-ended questions, which served as a form of stimulus for reflection rather than structured question-and-answer models. I focused on the research topic, at the same time allowing participants to tell their stories without being held to a fixed agenda. A semi-structured interview served to best capture the experiences of the participants, the complexity of their practice, their struggles, and their achievements. “Interviewing is one of the most common and powerful ways in which we try to understand our fellow humans. The most common form of interviewing involves individual, face-to-face verbal interchange” (Fontana & Frey, 2005, pp. 697-698).

In an informal sense, I undertook a membercheck verbally during each interview. I checked my understanding of the information acquired from participants by utilizing paraphrasing and summarizing for clarification. The interviews were audio recorded and then transcribed verbatim. At the conclusion of each transcribed interview, I sent the transcripts to the participants who had the opportunity to verify their accuracy. Harrison, MacGibbon, and Morton (2001) consider memberchecking as a method of ensuring the trustworthiness of transcripts. Participants’ comments served to validate my interpretations. Employing this process also provided the opportunity for participants to volunteer additional information that might have been stimulated by their reflection, although few participants chose to add to their original interview responses in this way.

Data Analysis

Consistent with grounded theory design, data collection and analysis occurred simultaneously. I initiated with open coding, proceeded with axial coding, and continued with selective coding to build theory (Creswell, 2002). Miles and Huberman (1994) believe that coding allows researchers to identify meaningful data for interpreting and

making conclusions. “What coding does, above all, is to allow the researcher to communicate and connect with the data to facilitate the comprehension of the emerging phenomena and to generate theory grounded in the data” (Basit, 2003, p. 152).

I used NVivo software designed for managing significant amounts of text. I began by engaging in open coding where I identified initial categories of information provided by the participants. Each interview transcript was analyzed individually; I marked open codes in the margins of each excerpt (see Appendix E). Then the seven interviews were compared to identify similarities and differences between them (Stake, 1995). In order to make sense of data, I examined to what extent my initial categories overlapped across the participants as well as what categories were unique. Through this process, I refined the wording of the code labels and produced a final set of 30 open codes (see Appendix F). Next, I proceeded with axial coding where I identified a core category and began to relate other categories to it. From all my open codes, I selected the core category “tasks performed and skills acquired” and then through sorting and resorting of other codes I established causal conditions, contextual categories, and consequence for the core category (see Appendix G). The core category reflects the research learning that occurred during participants’ engagement in research assistantships. Through the process of transcribing, listening to the recorded interviews, and reading and re-reading the transcripts, I identified key themes and patterns. Coffey and Atkinson (1996) argue that all researchers must be capable of retrieving, organizing, and managing the most meaningful bits of data. Reviewing data and creating codes allowed me to understand what the data said and to reflect on how to organize and interpret the data. After extensive reflection, I returned to the collected data to re-evaluate my codes. As the final

step, using selective coding, I refined the interrelations among categories to identify connections and develop theory. Merriam (1998) describes this type of development as “substantive rather than formal or grand theory” (p. 17).

I present an emerging theory in Chapter Four, focusing on the Core Experience of each research assistantship as influenced by the Background context and as it contributed to particular consequences (Looking Forward Looking Back). It was my intention to report the voices of my participants as closely as possible. To facilitate this intention, I incorporate numerous quotations from participants throughout my presentation of the results. I refine and extend this theory in Chapter Five.

Summary

Through personal interviews, I have explored the perceptions of 7 graduate student research assistants regarding their research assistantships. The systematic procedures of grounded theory provided me with rich information about (a) what research knowledge and skills the research assistants acquired; (b) what other lessons they took away from the experience; and (c) how the research assistantships influenced their graduate studies and future academic plans.

CHAPTER FOUR: PRESENTATION OF FINDINGS

The purpose of this study was to determine how effectively current research assistantships impart research methods, skills, and attitudes; and how well those experiences prepare the next generation of researchers. My open-ended interview questions were designed to prompt participants' reflections about their research assistantship experiences.

I was primarily interested in four aspects of graduate student learning: (a) how collaboration with faculty researchers and other research team members contributed to research assistants' research knowledge and skills; (b) how the activities in which research assistants engaged contributed to their research knowledge and skills; (c) whether there were other lessons, beyond research, that research assistants took away from their experiences; and (d) how research assistantships influenced students' graduate studies and their future academic plans.

Three interrelated categories form the basis of this chapter: Background, Core Experience, and Looking Forward Looking Back (see Figure 1). I arrived at these categories following a systematic coding process. I identified the Core Experience of each research assistantship and related this to the Background context and considered how it influenced particular consequences (Looking Forward Looking Back). The sequential organization of these three categories is aimed at enhancing readers' understanding of participants' expectations and research skills prior to engaging in their research assistantships, the most important aspects of the participants' actual research assistantship experiences, and the ways that these research assistantship experiences influenced participants' present graduate studies and potential future academic lives.

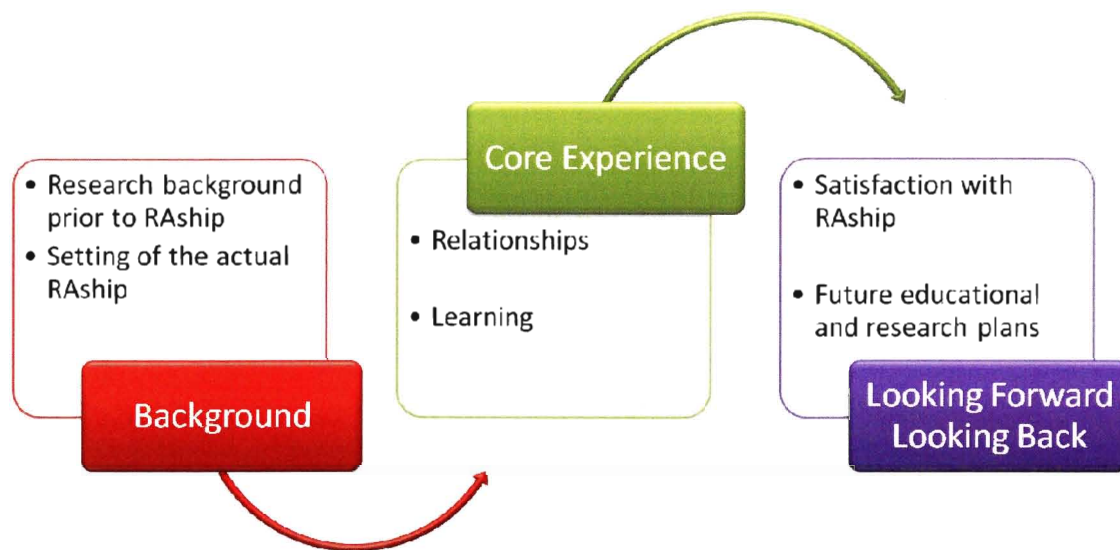


Figure 1. Emergent interrelated categories describing participants' research assistantships.

Background

Background is presented in two subsections. The first subsection provides information regarding participants' research knowledge prior to engaging in research assistantships as well as their progress with graduate studies at the time of the interview. Further I discuss why participants decided to become research assistants and how they found out about research assistantship opportunities. The second subsection documents the structure of the participants' actual research assistantships. This subsection covers the number of research assistantships participants had, the length of the research assistantships, team composition, information acquired during the first meeting regarding the research study, and the frequency of meetings during each research assistantship contract.

Research Background Prior to Research Assistantships

Five participants described having some research background before working as research assistants. Some participants gained research knowledge through research courses and others completed theses in their undergraduate work. Two of the participants reported having no research experience prior to their research assistantship.

I had a background in psychology so I did my undergraduate thesis...so I had experience doing research. I knew the steps, I knew it had to be confidential, I knew you had to get the informed consent, all of those things. (Katerina)

I'm learning qualitative research skills, which I knew before in the third year...because I took a class in my undergrad but I had forgotten it. So I'm learning that again. (Allison)

I think that in terms of courses, I took the methods course and I didn't find it very useful at all. Perhaps, the way it was presented and who I took it with because there wasn't a lot of rigour ...I enjoyed it but I didn't come out with a lot. It was a lot of divide the class up and go away and come back and give a PowerPoint presentation on a method. Whereas, I know that the other classes actually did little research pieces and practiced a lot more. So I didn't gain a lot of skills from the methods course. I gained vocabulary to be able to speak the language. And then, I took the qualitative course specifically and I learned a lot because we did two mini-research projects. We had to take them from beginning to end. We also had to write a mock research ethics proposal. It didn't go to the REB because it was course based, but it went to the professor who gave feedback. And then we had to interview, transcribe, code, and everything. That was an excellent experience for qualitative research. And it gave me some background that I think if I wouldn't have I would find the RA job...I don't think I would even have approached it. So going into the RA job, I felt that I had some background; I knew what the pieces were. I had done some interviewing, which I thought was really important, and some transcribing. (Lisa)

When asked why they decided to engage in research assistantships, participants identified the following reasons: (a) acquire research skills (b) become familiar with professors and their research, (c) benefit graduate work, (d) gain extra money, and (e) obtain future reference letters.

For example, Nikka noted that there is more value in getting a summer job on campus doing research than finding other jobs outside the campus that provide income

but do not provide an opportunity to learn research. For her, it was a perfect scenario for a summer job: get paid and learn research at the same time.

I decided to engage in a research assistantship because I have volunteered in a psychology research lab [during undergraduate studies] and worked with a professor and her PhD students. Through this experience I learned the most about research. More than I did in my undergrad research courses or master's research course. I thought that engaging in research assistantship would be a similar experience and that I would learn a lot from it. (Katerina)

I decided to engage in research assistantships because of the excellent experience opportunities...the exposure to the research going on within the department, and to become more familiar with the different faculty members and their work. It could help students along with their thesis [or] projects. A reference letter in the future is also another factor. (Allison)

I think I can gain beneficial working and learning experience from a research assistantship. To be a research assistant will benefit me in a meaningful way. I know I will be not only working, but also learning, which can reinforce my research knowledge, and can definitely further benefit my graduate study and research experience. (Sheila)

I asked my participants how they found out about research assistantship opportunities. The majority of the participants were contacted by the professors they met in graduate courses. A few participants reported finding out about research assistantship opportunities during a non-credit course that is mandatory for full-time master's students.

One participant contacted a faculty research officer and asked about the possibility of working as a research assistant over the summer.

I was taking 5N99, it's the non-credit required course for all full-time students and during one of these classes we had a bunch of professors coming in and talk about their research and research assistantships available because they needed RAs. So the professor came and one of the books that he was talking about, I actually used as a textbook in one of the courses that I TA. (Gwendolyn)

For the first one, I had filled out a form. At the beginning of 5N99, there was a form to complete and she [the researcher] contacted me a week later saying "Are you interested?" We met, I was interested so then we started the contract. The second one, I have been in the class with that professor. He was auditing the class so we kind of knew each other by name. We didn't get to know each other very well in that experience and then the semester later he emailed me saying "I'm looking for a student with strong theoretical background. I know that's you. Are you interested?" And I said "yes." (Katerina)

In the two cases, the professors have approached me about it. So because I did work hard, I managed to have a good reputation. (Allison)

I knew about the research project already and I was interested in what this professor was doing. So it was sort of a coincidence but also through connections and through keeping in contact with professors. (Lisa)

I wanted to get like a job for summer because I don't have much to do over the summer time so I kind of contacted the officer who is in charge of the job opportunities and TA jobs, so I sent her an email and it happened that the

professor wanted someone to do some work for her study. That's when I got an email back saying, maybe I should contact this professor myself and ask about the details and then I was hired. (Nikka)

Lave and Wenger (1991) state "Legitimate peripheral participation is an initial form of membership characteristic of such a community. Acceptance by and interaction with acknowledged adept practitioners make learning legitimate and of value from the point of view of the apprentice" (p. 110). The participants were able to build on their existing knowledge and move toward legitimately peripheral participation by having access to and taking advantage of research assistantships.

Structure of the Actual Research Assistantships

Katerina and Allison each had three research assistantships. The other five participants each had one research assistantship. All except one of the research assistantship experiences were in the Faculty of Education. The majority of participants were contracted for 40 hours, one participant was hired for 78 hours, and one participant had been working on a longitudinal research project for approximately one year.

The participants reported that the distribution of the working hours was sometimes uneven but it would spread out throughout the entire contract. One participant described working above the hours she was contracted for because the learning component was, for her, most important.

For me it was a very good learning opportunity so if I went over hours or under hours it wasn't really important that I do only 40 hours because the experience was most important to me. (Katerina)

Yes, 10 hours per week. However, what I did when I was offered the second 40-hour contract, I went and I applied for additional on-campus hours. And I had that approved by the Chair of the department and the Chair of the graduate studies as well. So that's why I was able to get three research assistantships because most students are not allowed to. I think that's not fair to other students because that's something other students could be doing but I got it. (Allison)

It was a 40-hour contract and we had roughly two months to fit these 40 hours, which was fine. Some weeks he would give me a lot to do, it would be 20 hours of work and then next week I wouldn't have anything so it evened out.

(Gwendolyn)

It was more than 40 but it was just one semester. So it was from January until April but I banked some hours with him and I am still completing tasks for him.

(Julie)

I have been doing it for about a year now and it's a long-term project. I would envision at least another year that I will be doing it...being a part-time student, she [the researcher] knew that she would get a longer commitment. Although, maybe not as much time at one given time so I couldn't do sort of intense work but it would be longer and spread out. (Lisa)

The descriptions of participants' team composition were varied. Some of the participants participated in research assistantships that involved collaboration with other team members and others worked only with the researcher. For instance, Katerina and Allison had multiple research assistantships and reported working on research

assistantship contracts that involved several team members as well as working on contracts where they collaborated with the researcher only.

When asked about the frequency of team meetings, Katerina reported that the meetings were scheduled according to the demands of the tasks. Sometimes meetings required involvement of all team members, other times only the researcher and the research assistant. However, there were times when only research assistants would meet to discuss the tasks.

At the beginning, we met as a group, the three of us, and I found out how my hours were going to be spent. Because some of my hours were helping the other research assistant and some of them were dedicated to helping the professor. So at the beginning we met together and then we met individually. (Katerina)

Allison described that in one research assistantship (research assistantship A), there were weekly meetings between the researcher, Allison, and one or two other research assistants. During the meetings, the researcher assigned tasks for the next week. Sometimes the research assistants met together to help each other with different tasks. For instance, research assistants who were involved longer in the project would provide guidance to newer team members.

For the weekly meetings, it's usually just the three of us. Sometimes, the third-year student shows up...but mostly it's three of us. At the meetings we discuss the tasks that we have done and then she gives us tasks for the next week. (Allison)

In contrast, Allison stated that research assistantship B involved meetings between the researcher and herself; although other research assistants worked on the project, she did not meet with them regularly.

No, there were the two of us and she had another two research assistants that were helping her complete other tasks. Those tasks were not related to the interviews that I transcribed or to the annotated bibliography. I have met them but I don't really interact with them. There is really researcher B and I for the most part.

(Allison)

Gwendolyn spoke about a similar scenario where she would meet only with the researcher, although she was in electronic contact sporadically with other co-researchers involved in the project. She described that at the beginning she met with the researcher every week. She found the meetings very informative: the researcher explained everything clearly, designated time for questions, and even provided literature for particular tasks. After the researcher had no more work for Gwendolyn, there were no meetings and the communication broke down.

He was working on the book and the chapter review and I was hired to edit that for him. Mostly, I was working with him, although I did have some contact with his other co-authors. (Gwendolyn)

Julie described working with the researchers, another research assistant, and PhD students. Meetings were organized when there was a need to get together to discuss next steps or when concerns arose. Communication was mostly maintained electronically.

He would just email me and say ok, I have the next task for you, can you come by my office whichever day. Then I would email her [the PhD student] whenever I would need her help with anything. Sometimes she was able to help via email, just depending on what it was. (Julie)

It was just his PhD student that was really involved. And it wasn't weekly; it was

basically when I needed her. (Julie)

Lisa explained that the frequency of meetings was defined by the type of research tasks being done. When the tasks involved transcribing, the researcher assigned a task and then communication was maintained via email for a longer period of time. On the other hand, during data analysis, meetings were regular, once a week for half a day. Lisa knew that there were other team members involved in the project; however, they never met as a team. She met with the researcher on an individual basis and supposed that the other research assistants did the same.

There is a PhD student and I believe one other student...so there is a team of us, however, we haven't met as a team yet. I work only with the faculty member and I'm assuming they do also. (Lisa)

Sheila and Nikka did not work in a team setting; they worked one-on-one with researchers. Sheila mentioned that there were no weekly or regular meetings. She attributed that to the fact that the researcher traveled frequently during the research assistantship. The researcher assigned tasks before his departure and set a meeting upon his return. Communication during his absence was maintained via email. From Sheila's perspective this arrangement worked well. The researcher was very supportive and everything was discussed in detail when he was in the country.

When the participants shared their research assistantship experiences, I asked if they felt that the researcher provided them with sufficient information about the study and their role on the project during the first meeting. Some participants reported being satisfied with the level of detail received while others felt that they were not well informed and stated that they were hesitant to ask for further clarifications.

Julie knew the researcher prior to becoming a research assistant and expressed having enough information in order to engage in the project. Similarly, Lisa was familiar with the project before she was offered the research assistantship position.

It was actually very informal because we know each other. I worked closely with him when I did my undergrad thesis and I was his TA, too. He just emailed me and asked if I had any extra time. He gave me a piece of paper with a list of things that he wanted me to analyze within each dataset. So he had everything typed out with what he wanted me to do. And then I would do it and get back to him. He would give me more tasks and that's how it went. But there wasn't like a formal meeting because we already knew each other. I imagine it would be different for someone who he didn't know. (Julie)

I knew quite a bit about the project but it has different phases and what I knew was mostly phase one, which had already been completed...I did know a lot about the background of the project. (Lisa)

Nikka referred to the first meeting as an "orientation session" where the researcher provided all of the details about the research study as well as the tasks that she was expected to complete.

Actually the first time we met in the first meeting she told me everything about the studies that I'm going to do and what kind of tasks for the job I need to fulfill. It's more like a first orientation meeting...Even the first meeting she asked me how's my study and stuff like that. The orientation it's more like we got to know each other first and then we moved on to do the work together. (Nikka)

Other participants expressed that they did not receive enough information at the

first meeting. Katerina and Gwendolyn had hoped for more details when starting two of the three research assistantships in which they were involved.

It was general, it wasn't very specific. This is my topic and one or two sentences...you will be doing A, B, and C as tasks. (Katerina)

He told me that there were three different projects that he was working on and that he wanted me to work with him on couple of book revisions and things like that. But he didn't really give me clear expectations regarding how involved I was going to be or things like that. (Gwendolyn)

Sheila had heard about research assistantships before becoming a research assistant but didn't know exactly what the work would involve.

So before I started I felt a little bit nervous because I thought that maybe I won't be able to handle that, maybe it will be difficult for me. (Sheila)

Research assistants need to be well informed about the research study and their role on a project during the first meeting. Acquiring this type of information allows them to decide if they are interested to undertake the assistantship. For those who engage in research assistantship for the first time, this clarity around expected tasks can eliminate feeling intimidated by research.

Summary

I have presented participants' research knowledge and expectations prior to engagement in their research assistantships in order to set the stage for their stories. The background section is meant to illustrate the reasons that motivated master's students to seek research assistantships.

Prior to reading the core section, it is essential to understand that some of the

participants undertook research assistantships with limited research knowledge and therefore they may have needed more clarification about research tasks or more time to comprehend the research cycle. On the other hand, it is helpful to discover where participants acquired previous research knowledge and how prepared they felt for the research assistantships. As one participant stated, without previous research knowledge she would not have even considered becoming a research assistant.

The setting of the research assistantships is meant to demonstrate the uniqueness of research assistantships in terms of how many research assistantships participants held, how many hours they dedicated to these experiences, and whether or not they worked in a research team. Another interesting aspect to take into consideration is the distribution of working hours and frequency of meetings. In order to maintain the confidentiality of the participants I am unable to link the above aspects to the actual research assistantship experiences, but these details are meant to inform readers about potential implications of these factors.

Core Experience

Two main themes emerged through my analysis for the Core Experience section: Relationships and Learning. Writing about these themes made me realize the strong connection between these two elements and the influence of relationships on research knowledge acquisition. It is evident that a research assistantship is a holistic experience within which the development of research assistants occurs at many different levels that affect one another. Although, learning and relationships are presented separately, these two elements interconnect and complement each other and therefore need to be

considered as a whole. The interrelation of these themes will be further discussed in Chapter Five.

Relationships

The relationship theme covers three main elements (a) time to develop a relationship; (b) open communication between the research assistant and the researcher, as well as other team members where relevant; and (c) support from the researcher and other experienced research assistants on the team. Open communication and support appeared to form the foundation for the mentoring relationships that developed in some instances.

Time to develop a relationship. Many of the participants acknowledged that it took time to develop a relationship with the researcher and that the length of the research assistantship contract could pose a limitation. Gwendolyn gave an example of the relationship with her thesis advisor emphasising the extended length of time available for building the relationship.

My advisor took me on knowing she will be mentoring me through the entire process and that she will spend at least a year with me on different things to reach the end. (Gwendolyn)

Allison also spoke about how the duration of the research assistantship can affect the relationship between a researcher and a research assistant. She explained how her first impression of the researcher changed after several meetings. The researcher's working style and attitude were unfamiliar to Allison, which initially led her to assume that her assistantship held no potential for educational experience. In time, as she got to know the researcher, she realized that he was dedicated to being a mentor. Allison's first

impression was misleading. She was pleased to discover that dedicating herself to this project allowed her to build a valuable relationship with a researcher that supported her acquisition of research skills as well as progress in her graduate work.

Lisa also referred to the important role time played in building a relationship and getting to know the researcher's personality and ways of communication. Lisa expressed that at the beginning of the contract she had difficulty gauging the researcher's satisfaction with the tasks she completed. It took some time before Lisa got to know and understand the researcher's ways of communicating approval and expressing satisfaction. This communication of satisfaction seemed to be important to Lisa since it eliminated her "cloud of doubt."

While I know I can ask any questions, there was a little bit of a time getting to know the person's personality too because she has a different manner. I think, it's cultural in part, from where she comes from, just not as much emotion maybe in her voice and manners that I was used to. I didn't get a lot of standard feedback so I couldn't read her. That was a little bit of a problem at first because I wasn't sure if she was happy, if that was what she wanted ...but over a few months, even though I knew the person before, that changed a lot because I got to read her.

(Lisa)

On the same note, Lisa added that the relationship took a different path when some of the meetings took place outside the campus in a non-academic environment. Moving work from an academic setting to more personal surroundings allowed the research assistant to see the researcher in a different light, more as a colleague.

Organizing meetings outside the university environment was possible in part because of the long contract duration.

Open communication. The participants talked about the value of communication with the researcher. Some participants spoke about open and honest communication as a path to building trust and respect. Open communication is understood as effective transfer of information, encouragement to ask questions, and engagement in meaningful conversation.

Lave and Wenger (1991) describe two forms of talking: talking about, which involves stories and community lore, and talking within, which involves exchanging information necessary to the process of ongoing activities. As evident from the participants' voices, the holistic potential of research assistantships is in exposure to both forms of talk in order to maximize learning.

Katerina described the researcher as being straightforward and realistic when talking about research-related topics, academic life, and personal beliefs. She appreciated honest conversations and developed trust and respect for the researcher. Further, because of the open communication initiated by the researcher, Katerina felt more comfortable to ask questions, share her own experiences, and express potential concerns.

Similarly, Allison admired the researcher's honesty when talking about his career. Allison was interested in becoming a professor and the researcher took time to provide her with rich explanations about what being a professor entails. She emphasized that it meant a lot to her to have honest and realistic insight related to her career goals. The researcher's open communication contributed to the development of a respectful relationship between the two team partners. Allison believed that her research

assistantship provided her with the opportunity to establish valuable rapport with the researcher.

And this is exactly what I needed. I needed someone who would tell me exactly how it is. But I think that if I wasn't his research assistant, he wouldn't trust me enough to tell me his own personal opinion. (Allison)

Referring to a different research assistantship, Allison provided an example that reflected what she considered to be a trustworthy relationship with a researcher. She described the freedom and trust that the researcher gave her with the research account for the project. She had permission to purchase items useful for the project without consulting the researcher. Allison explained that the researcher interacted with her more as a colleague than as a student or employee. The researcher's actions led to the development of reciprocal respect and trust.

My relationship with her is like I don't see her as my boss...I don't see her like that. I see her as a person who is mentoring me and it's helping me. And she sees me as a colleague, a co-researcher. There is no hierarchy in our relationship. The power relation does not exist. (Allison)

Katerina and Allison talked about developing respectful relationships with their researchers during their research assistantships. On the other hand, Julie knew the researcher prior to becoming a research assistant and described having already established a trusting relationship with the researcher. According to Julie, the researcher trusted her and respected her so she was asked to assist with preparing research presentations and editing a manuscript. She added that the researcher would not hire just any student to complete advanced research tasks.

There is a reciprocal respect. He puts a lot of trust in me to do these analyses because I do the analysis for the research colloquium and I think that's pretty important...I don't know if he would get another RA to do what I did. I feel that because he knows me and we worked together and he has a lot of trust and respect for me that I would be able to do these things. So I don't know if that would count for everyone. (Julie)

Nikka talked about having many conversations that initially she considered "chats" since they were not related to the job for which she was contracted. After time, she realized that these chats contributed to the relationship that developed between her and the researcher. She described the relationship as an equal partnership where she could learn and be comfortable during the learning process.

At first I felt like the chatting was just a waste of time but when I looked back I found...that when you start doing a job you have to know the people first and have that connection first, then you can do things better...that's something I picked up on the way. I just never really realized that. (Nikka)

In terms of open communication, participants emphasized the importance of having clear instructions regarding assigned tasks and clear expectations of their role as research assistants. This was explained in detail in the Background section.

Sheila talked about the researcher who traveled a lot during the period of her research assistantship. She enjoyed working independently and considered the researcher to be very supportive and involved regardless of his travel demands. They would meet before the researcher's departure to assign and discuss tasks. While the researcher was away, conversation would be maintained electronically, in case Sheila had questions or

concerns. Upon the researcher's return there would be another meeting to review the tasks completed and to evaluate the progress of the project.

My professor in spring and summer goes away to other places or other countries.

So he would tell me what to do before he leaves. [Then] I would write emails...but when he was in other countries this is maybe not convenient for him but he would check email regularly. After he came back from other places, he would ask me to meet with him. He would ask me how it is going, do you find anything difficult...So he is supportive and very helpful. (Sheila)

Lisa reported that meetings were only between her and the researcher. There were other research assistants on the team; however, she never met them. She assumed that the research assistants working on other tasks also had individual meetings with the researcher.

I know what I do and I'm assuming it is being done in a parallel process with someone else. (Lisa)

She believed it would be beneficial for the whole team to come together to exchange ideas, talk about the different research components everyone was working on, and see how those components related to each other. Lisa also spoke about the benefit of having other graduate students working on the project in order to freely express difficulties or frustrations encountered during the project.

It would be nice if we did it together and if I had a chance to speak to that person on a different level. I can express any concerns or fears I have to the professor but only to a point. (Lisa)

I would like to just have somebody like a peer that I could talk to about those things because I'm not going to bring them up with her. Having that different level in the team would be good...I don't think there is a big hierarchy between the professor and me, I feel like a colleague, still, there is something different to having your direct peer. (Lisa)

The open communication between the researcher and Katerina provided space to talk about Katerina's graduate work and future academic plans. The researcher made some comments that left Katerina feeling frazzled and somewhat discouraged. For instance, during one conversation, the researcher questioned her master's thesis research topic and asked why she didn't choose a different research area. At the time, Katerina was not prepared to defend and validate her research choices. Further, she found the researcher's harsh statement intimidating and out of place.

Towards the second contract that's when she started questioning why I'm looking at this topic and saying that I shouldn't be worried about getting published or going to conferences...and I think that this discouraged me a little. Because then I started second guessing myself ...why I'm really in this program, why I'm looking at this topic. And there is a little bit of resentment because I do feel that it was not her role. I still walk away from the whole experience grateful but that just left a bad taste in my mouth that she did that. (Katerina)

Gwendolyn, sharing her research assistantship experience, said that initially communication with the researcher was very open and informative, however, at a certain point the communication broke down and she felt herself becoming disconnected from the project. According to Gwendolyn, the communication broke down once the

researcher ran out of work and had no tasks to assign. After several weeks of asking for a new assignment, the researcher gave her a task that she considered to be non-educational, “some fluff job” as she explained it. Gwendolyn admitted that her perception was partially influenced by the lack of instruction the researcher gave regarding the assigned task. By that point, she felt “left on her own” and was not comfortable asking for further explanation.

It was awkward ...I don't know. It started out really well, I enjoyed the first month and then after that I kind of went down the hill...For the first couple of meetings he was really good about getting me on the same page, the foundations, where to expect readings to be or what sites to look at, so getting me familiar with the area that he was researching but past that, there wasn't much mentorship.

(Gwendolyn)

When I talked about not wanting to do the fluff job, it wasn't because I was shirking my duties, but because I saw it as a pointless waste of time if I didn't understand how to do it properly. Some guidance would have helped...I think I got really disillusioned at the point where [he] gave me the task that I didn't know where to start and what to do. The communication had broken down so much by that point that I didn't feel comfortable even asking. And that's where it went sour. (Gwendolyn)

Gwendolyn reported being interested in learning skills related to the assigned task and completing the hours she was contracted for but she was discouraged by the interrupted communication.

The majority of participants reported that the researchers took time to explain their expectations and the tasks that research assistants would be performing. Some researchers provided literature related to the assigned task in order for the research assistants to gain a better understanding of what they were doing and a wider perspective on the research project. While some researchers encouraged their research assistants to ask questions, it appears that asking questions or requesting additional explanations was a challenge for some of the participants.

Katerina reported being intimidated by the idea of appearing “not smart” if she turned to the researcher for clarifications. It was important for her to be perceived as competent and confident and to avoid asking questions that could compromise that image. She acknowledged investing a significant amount of time in figuring out on her own what to do and how to complete diverse tasks instead of asking the researcher for further explanations.

I had many of these moments on project A where I was unclear about the instruction but I didn't feel comfortable going back to her. And that was more because I didn't want to look like an idiot. I wanted to look like I'm confident; I know what I am doing, and that I can handle anything. So I guess, a little bit more time was spent on figuring out what to do. I would have saved a lot of time if I would have just gone back to her and asked for clarifications or direction, “listen I don't know how to do this task, can you help me out?” (Katerina)

Allison expressed that usually she did not have a problem approaching the researcher for clarifications. However, she provided one example when she decided not to pose any questions because it seemed to her that the researcher was convinced that she

already knew the answers. Allison was under the impression that because the researcher was impressed with the quality of her previous work, she expected Allison to be equipped with the research skills to complete any tasks. Like Katerina, Allison avoided the possibility of looking unwise and disappointing the researcher.

I had some questions that I was afraid to ask...with researcher B... because I have told [the researcher] that I had transcribing experience and I have research experience, she wasn't sure to what degree is my experience. But when I finished the transcripts on time, and maybe because she was impressed, she thought that my other skills were as good. So when I met with her just a few days ago, she is talking about all these other stuff and I just had no idea...but I did nod and agree. So I didn't ask her to explain what she was saying and then she did clarify some more. I think that she kind of sensed that I wasn't really following her so she explained more and I got it, okay you were just using longer words. (Allison)

On the other hand, Sheila and Julie stated that they felt confident asking for further clarification from their researchers. In both cases, the researchers did not hesitate to provide clear explanations. As a result, the research assistants felt confident that they could approach the researchers in the future should they have further inquiries. This example suggests that it is only a perception that asking for clarification and additional guidance might be a humiliating or compromising experience. Lisa expressed feeling more confident asking questions over time, when she got to know the researcher.

Support. In the course of telling their stories, participants described the personalities of the researchers they assisted. The most common positive researcher characteristics identified by participants included: supportive, motivating, sharing, easy

going, flexible, approachable, caring, happy, and available (see Figure 2). While participants did not directly voice any negative characteristics, in some instances a lack of these positive characteristics was noted.

Allison valued the researcher's support of her own academic work. During her research assistantship, Allison was accepted, for the first time, to present at a conference. While the conference presented a valuable learning opportunity, it also required a fair amount of preparation and Allison was concerned that she might not be able to prepare and deliver a session at the conference and still complete all of the research assistant work she was assigned. The researcher showed enthusiasm and full support for Allison, offering assistance with the conference presentation (e.g., providing feedback and practicing the presentation together). With respect to attending conferences, Toth (1997) stated "the fortunate graduate student will have a mentor to teach her the ropes" (p. 45).

I went to her and said that I will be missing class on Wednesday and she asked me why. So I explained that I was accepted for the conference and I'm really sorry but I will finish all work before I go and I will make sure it is all done before I go. In case I don't finish everything, I will complete all when I come back. And she said don't worry; I'm so glad you got into the conference, have fun. And if you need any help or if you want to run over your presentation with me I can give you my feedback....I know it's your first conference. (Allison)

Julie and Katerina also recognized the researchers' support for their graduate work.

It's kind of great, too because I'm using his dataset and [my thesis advisor] doesn't know much about it, but then I have someone I can rely on who does know a lot about it and he is very supportive in what I'm doing. (Julie)



Figure 2. Researchers' support characteristics as identified by the participants.

Well, I get along very well with the professor B. He has been very supportive and motivating. He is very excited about research and finding out what I have researched and what are my conclusions and arguments. (Katerina)

Allison described the researcher as a very caring person. When Allison was offered another research assistantship, she hesitated to share the news with researcher A, afraid that she might think that having more than one assistantship was not a good idea. After a few weeks, Allison decided to inform researcher A that she had accepted another research assistantship. The researcher was very supportive of Allison's decision, the only concern that the researcher expressed was around time management.

She was a little bit concerned that I won't have enough time for my own classes and the research that I was doing for her.

On top of that, the researcher offered to adjust the number of hours Allison was contracted to work per week to make sure that Alison had extra time to devote to the other research assistantship and her graduate studies.

Nikka was impressed with the researcher's caring approach. The researcher even reminded Nikka not to work over her contracted hours.

She smiled a lot and was very easy going, always had a very flexible schedule and she kept reminding me I don't need to over work; I need to do it and put it down, you don't have to overdo it. (Nikka)

Allison spoke enthusiastically about the availability of the researcher and how the researcher included her as a team member. After Allison accepted the position of research assistant, the researcher showed her the workstation she would be able to use and asked

Allison to post her name in front of the office. Allison reported feeling part of the team from the very beginning of the contract.

And another thing I like about researcher A is like we have an office and the first thing we did when I got hired in August, she took the name tag down and she put my name on it, too. That was the first day that I spoke to her and she said take that down and write your name on it. So this was so cool like I have my office with my name on it. She is amazing. She shares everything she has with you. All her emails start with have a great weekend and here is my cell phone number, here is my home number, here is my office number, if you have any questions call me. She makes herself so available to students that you feel she lives at school like how is she there every time for you. (Allison)

The majority of participants recognized that researchers were very supportive, caring, and dedicated to be mentors. In fact, participants reported that they had many side conversations with researchers that went beyond contracted work. In some cases, researchers would ask about the progress of the research assistants' graduate work or research interest at the first meeting. Other researchers would begin to show interest in their research assistants over time, as a relationship developed.

Only one participant, Gwendolyn reported that the researcher did not show any interest in engaging her in conversations regarding her own research or her future academic plans. According to Gwendolyn, the researcher never considered being a mentor during this research assistantship.

For this one there was not enough time and I don't think he ever saw me as someone to mentor. (Gwendolyn)

Katerina also reported being discouraged by the comment that master's students should not be concerned with "getting published or going to conferences." This comment contradicts the recommendation for graduate students to "explicitly seek opportunities to attend conferences and co-write papers for publications" (Grundy & McGinn, 2007, p. 11). During her graduate work, Katerina frequently heard about the importance of publications and conference presentations to students' CVs and their impact when applying for doctoral studies. As such, she could not make sense of the researcher's comment unless the researcher considered her to be incapable of doing academic work at that level. The researcher may have thought she was being supportive by telling the research assistant not to worry about "extra" tasks, but the research assistant perceived the comment negatively as a contradiction to the message she was receiving elsewhere and therefore found it very unsupportive.

At the beginning of the term I had emailed the researcher from project A saying that I'm really interested in publishing because that's important to get into a PhD... having published or having experience publishing, so if there were any opportunities to let me know. And she basically sat me down and said that as a master's student you are not ready to publish and you shouldn't be worried about that. So will I be recognized? Probably not, but I think that's a part of the job.

(Katerina)

A few participants spoke about other research assistants who were part of the team. In teams with multiple research assistants, those with more experience and advanced research knowledge often provided support for novice research assistants. In a

few instances, more experienced research assistants were described by the participants as mentors.

During the interview, Katerina often mentioned another research assistant who offered remarkable assistance. It became clear during the conversation that she started to view this research assistant as her mentor. The senior research assistant, having more research experience, assisted Katerina with completing assigned tasks for the project as well as with her graduate work.

[This research assistant] kind of took me under her wings and really helped me out. So it was almost like she was my mentor.

Julie also spoke about getting assistance and guidance from a graduate student research assistant working on the project. Julie explained that she would not hesitate to contact the researcher for assistance, however, she knew that the researcher would direct her to the other graduate student anyway, because the student was closer to data.

If I went to him with some questions, which I did, he would direct me to her, the PhD student. She was still actively doing it so she could be more helpful to me...I would email her, whenever I would need her help with anything. Sometimes she was able to help via email, just depending on what it was. (Julie)

Through the stories that senior research assistant shared with Julie, she realized what doctoral studies involve and recognized she could do it.

One of the PhD students that I worked with, she will be defending soon, and she has a family and she teaches here and at a different university so I see all of the different roles that she is playing and I see that I could do it. (Julie)

Allison, also referred to getting assistance and support from another more experienced research assistant.

For example at the next meeting, this third-year girl was supposed to help me out with SPSS. She was on the team last year so she had a little bit more skills.

Overall, the majority of participants described their researchers as caring and supportive, and occasionally developed similar relationships with other research assistants.

Summary. It is evident that participants not only appreciated, but also reciprocated researchers' open communication and demonstrations of trust and respect. According to participants, open communication and support are fundamental to the relationship between a researcher and research assistant. The participants voiced the importance of researchers providing clear instructions and explanations, and maintaining ongoing contact in case questions or concerns arise. In fact, as presented in Gwendolyn's case, interrupted communication led to the research assistant's disappointment in her experience. A few participants indicated that the length of the contract was a significant element in developing a relationship with the researcher. Lave and Wenger (1991) assert "The key to legitimate peripherality is access by newcomers to the community of practice...To become a full member of a community of practice requires access to a wide range of ongoing activity, old-timers, and other members of the community; and to information, resources, and opportunities for participation" (p. 101).

Based on the stories of the participants, trust and respect developed as a result of time, reciprocal open communication, and researchers' support regarding research knowledge and other aspects of academic life. Commitment, trust, and respect between

the researcher and the research assistant appear to be essential ingredients for developing a relational bond (Lovering, McGinn, & Niemczyk, 2010). Some of the participants identified the relationship they have established with the researchers as a mentoring relationship. Gallimore, Steiner, and Tharp (1992) indicated that the development of mentoring relationships often evolves over time. The authors stated that activities assigned to novice researchers need to be engaging and presented on a regular basis. Further, the mentor needs to thoughtfully support novices and allow space for independence that will lead to greater competence for the novice. Interestingly, in a few instances, senior research assistants were recognized as mentors. Because of their advanced research knowledge and progress in graduate work, senior research assistants were perceived as role models who influenced participants' decisions regarding their future plans.

Learning Research Knowledge and Skills

McGinn (2006) refers to research assistantships as “one of the most powerful forms of researcher education” (p. 133). Perna and Hudgins (1996) consider research assistantships as spaces where students learn “not only the knowledge and skills required to perform particular job tasks, but also the attitudes, values, norms, language and perspectives necessary to interpret experiences, interact with others, prioritize activities and determine appropriate behaviour” (p. 5). This section illustrates the learning potential of research assistantships.

This section is divided into four subsections. First, I present all of the research tasks that participants had the opportunity to engage in during their research assistantships. Second, I describe the factors that influenced participants' approaches to

and completion of the research tasks assigned. Third, I demonstrate the skills and confidence that participants gained through their research assistantships. And, finally, I provide participants' perceptions regarding their progress in understanding research.

Research tasks. Participants had opportunities to engage in a diverse range of tasks, including: applying for ethics clearance, interviewing, transcribing, entering data and conducting quantitative analyses, coding and conducting qualitative analyses, editing, searching for references, creating an annotated bibliography, preparing and presenting research, targeting publication outlets, publishing, reviewing literature, organizing documents and references, preparing tables and charts, and performing word counts. The three most common research tasks include transcribing, coding for qualitative analysis, and searching references.

Grundy (2004) reported that the participants in her study learned about research by undertaking a variety of research tasks.

As a collective, the overall tasks that participants engaged in included: (a) data collection such as literature searching, interviewing, taking observations, transcribing interview tapes, and downloading data into qualitative analysis software; (b) administrative tasks such as photocopying, administering questionnaires, developing database libraries, and developing project management structure; (c) analysis tasks such as coding, grounded analyses, narrative analyses, and pictorial analyses; and (d) writing-related tasks such as editing papers, journal writing, and co-writing papers for publication. (p. 189)

McGinn et al. (2010) in their study documented one research assistantship and its educational potential. They demonstrated that through engagement in diverse tasks, the

research assistant experienced doing research, learned research skills, and gained insight about what it means to be a researcher.

Together, the research assistant and academic supervisor planned data-collection and participant-recruitment strategies, sought ethics clearance for the study, conducted interviews, transcribed and analysed interviews, wrote a conference proposal and then paper, presented at a conference, and prepared a manuscript for publication. (p. 6)

The above-mentioned studies present evidence of learning research by engaging in a range of research tasks. Although, each participant worked on a different range and number of tasks, all participants in the present study acquired valuable research knowledge and skills, just as the participants in these earlier studies.

This subsection outlines all of the research tasks in which participants had the opportunity to engage during their research assistantships. The research tasks are listed in sequence reflecting the research cycle. Figure 3 illustrates the frequency of individual research tasks across participants.

















During her research assistantship, Allison gained insight into the *research ethics clearance* process when she had the opportunity to assist in completing a research ethics application. Allison saw this as an authentic task for a research assistant as it provided knowledge and experience pertinent to her own thesis research.

On this research assistantship, I learned my qualitative data collection skills, how to conduct the interviews, how to apply for ethics review. She showed me her ethics application, and her confidentiality form. She showed that to me so I know what it is...how to apply to do research within schools. (Allison)

TASK	Katerina	Allison	Gwendolyn	Julie	Lisa	Sheila	Nikka
Applying for ethics clearance							
Interviewing							
Transcribing							
Preparing tables and charts							
Performing word counts							
Entering data and conducting quantitative analyses							
Coding and conducting qualitative analyses							

Figure 3. Frequency of individual research tasks across participants.

Figure 3. (continued)

TASK	Katerina	Allison	Gwendolyn	Julie	Lisa	Sheila	Nikka
Editing							
Searching for references							
Reviewing literature							
Creating an annotated bibliography							
Preparing and presenting research							
Targeting publication outlets							
Publishing							
Organizing documents and references							

Completing an ethics application can be an intimidating step in the research process. Therefore, having an opportunity to see a sample of a successful ethics application and the consent material as well as assist a researcher in completing these documents can be a very educative experience.

Katerina and Alison's research assistantships provided them with opportunities to learn how to *conduct interviews* as a method of data collection. Katerina reported that prior to engaging in her research assistantships, she was hoping to learn how to conduct interviews, anticipating that she would eventually need this skill. During her second research assistantship, one of the tasks assigned was conducting a set of informal interviews. Katerina did not have a chance to observe the researcher conducting interviews to then mirror him but was instructed about what questions to ask. As Katerina was describing her interviewing activities it became evident that she had no difficulty in approaching people for an informal interview.

They were informal interviews so he just said go and ask them about this. So he did not show me first, he just told me what to say and what to ask; what I was looking for in the informal interview. (Katerina)

He had me interview a couple of people...I emailed them and then tried to set up appointments, and they didn't email me back so I went to them personally and just knocked at the door saying "Hi, can I interview you?" like just an informal interview. (Katerina)

When Allison joined the team, the researcher explained that one of the tasks would involve conducting interviews. Due to changing personal circumstances for Allison and the researcher, Allison was not able to assist the researcher with the

interviewing. During her contract period, the researcher was dedicated to providing an educative experience for the research assistant despite the fact that Allison was no longer able to participate in this data collection activity. As a result, the researcher arranged a mock interview to allow Allison to learn interviewing skills, which she believed would be helpful in completing her exit requirement.

We did a mock interview, where we listened to one of the recordings and [the researcher] told me that's what you do when you sit with them...so she went over the entire process with me. Even though, I was not a part of the interviewing process, I still feel like I was because she did train me and I knew what to expect...and then from transcribing the cassettes. I kind of lived vicariously through her transcribed cassettes like this is what's going on, this is what the room looks like...So at the back of my head I had a picture every time I transcribed. (Allison)

That's another thing I appreciate about her is that even though she knew at that point this would not come in handy for her because I wouldn't do the interviews with her, she still taught me. She knew I would need that skill eventually.

(Allison)

Both, Katerina and Allison were exposed to interviewing for the first time during their research assistantships. Katerina anticipated the importance of this research skill even prior to becoming a research assistant. She seemed to enjoy her independent experience conducting the informal interviews. Allison was appreciative of the researcher's dedication to expose her to interviewing even though she was not involved directly in the interview process during her research assistantship.

Four participants had the opportunity to engage in *transcribing* during their research assistantships. Katerina, Lisa, and Sheila reported that it was their first time transcribing. Lisa acquired some theoretical knowledge about transcribing during one of her graduate research courses. She explained that although the researcher provided her with literature on transcribing, she felt nervous about doing a good job. Further, she added that at first transcribing appeared to be a tedious and boring task.

At the beginning as I said, just because I was new and transcription is not easy...although I was given instructions and pieces of literature to read around transcription, but the first few tapes I still did think, oh my God I don't know what I'm doing. Do I write everything, I was so nervous about there being mistakes in it. I was bored to tears. (Lisa)

Lisa's perception about transcribing changed with time. Seeing how transcribing relates to the successive research steps, how different research components are interconnected, and the important role transcription plays in the entire research study shifted Lisa's original view. Although transcribing remained a mundane task, it had more meaning attached to it. Lisa recognized the researcher's willingness to provide an educational experience and to engage her in every aspect of the research. She contrasted her experience with that of other graduate students who she had heard voice frustration when they were engaged in transcribing only, without some larger sense of the research project.

Now when I go back to transcribing, I'm actually a little bit more excited because I have seen what she is doing with the transcripts and she has involved me in the analysis. She has been really good because we analyze together...I know people

who are just doing transcripts. But this faculty member is really immersing me in every aspect of it. And because of that I can see the value of every aspect, even in mundane tasks. (Lisa)

Like Lisa, Sheila also experienced transcribing for the first time. The researcher, aware it was Sheila's first time, warned her that it might be a tedious task. Interestingly, Sheila reported enjoying the transcribing process from the very beginning.

Before I started, my professor told me that previous research assistants did that and they felt it was boring so the professor told me that I can do a little bit every day so I won't get bored fast. But I like to do that. Other people can think it's boring but I like to do that stuff, step by step, not too complicated, you can do it individually so I can do that many hours per day. (Sheila)

Sheila also reported being nervous about how to report emotions expressed by the participants whose words she was transcribing.

Sometimes they were reflecting or they were hesitating to answer. That was difficult to express in words, difficult to express these silent but meaningful emotions and reactions in a transcript form. (Sheila)

Katerina expressed learning a variety of different skills through transcribing:

From project A, I have learned how to transcribe...And what did I learn from that?

What codes to put down when you don't understand what people were talking

about, how to put down your own notes and thoughts as a transcriber. From

listening to tapes I have learned about the content that was covered in that

interview, and I learned how to transcribe faster, how to get my own techniques,

and even how to interview. (Katerina)

Sheila spoke about learning from the interesting views that participants held on the topic covered in the interviews she transcribed. She added that hearing the perceptions of other people made her reflect on her own research since the topics were somewhat related.

[I value] what I can learn from other peoples' perceptions and how they debate each other or how they interact with each other...Different people can have same opinions or different opinions. (Sheila)

She also added that by listening to the interview as she transcribed, she better understood the researcher's interviewing technique.

I found that the way my professor did the interviews...because before I would think you just follow one, two, three, four exactly the questions, but I didn't know you can ask more details or you can skip some questions because the participants answered them already so you can go to the next step. So I found it is flexible. I also learned from my professor how to encourage my students to speak more ... to have interaction. (Sheila)

Participants reported learning diverse skills from transcribing including: typing faster, taking notes, acquiring their own technique, learning about other people's perceptions, and interviewing skills. Lisa noted that she progressed from being fearful to feeling confident. Her perception about transcribing changed when she understood how transcribing relates to other research steps and how important a role it plays in the entire research process.

Katerina reported that *preparing tables and charts* provided her with insight regarding different stages of research. Yet, she indicated that she did not enjoy

performing that task and had to motivate herself to do it. She also expressed that engagement in such basic tasks would not benefit her future doctoral education.

She had me do one chart of how she would track the members that she was interviewing. So that helped me learn about different stages of the research project. (Katerina)

Although, preparing tables and charts can be perceived as a dull task, it is key to approach every task as a crucial component of conducting a research study.

Alison was asked to do a *word count* for some of the interviews she had previously transcribed. She considered this task “boring” and would have preferred to be engaged in more advanced work.

The last task that she had me doing was kind of stupid; I had to do the word count of the transcripts. So I had to count every single word and even the conjunctions. I had transcribed it so it was hard for me to go back and separate the two words...I actually wasn't sure if I should count it as one or two so that's another task I had to do, which I found very boring like I could do something better. (Allison)

I am unable to define where the preparation of tables and charts performed by Katerina and the word count undertaken by Alison fit in the research cycle, therefore I present these tasks at midpoint of the research cycle as data preparation tasks. Grundy's (2004) study demonstrated that all participants derive some worth from “both rewarding and unrewarding tasks” (p. 19). It can be assumed that Allison's perception of some tasks as meaningless was influenced by the lack of information regarding their purpose and their connection to other research steps.

Julie's research assistantship involved a quantitative research project where she

engaged in *data entry and statistical analysis*. Julie reported having had previous experience with the database program and considered data entry to be a fairly boring task. Yet, she recognized its educational value. Further, she admitted that data entry is an important step in the research process without which data analysis could not be performed.

Everyone knows that data entry is very boring...but I did learn a lot from it because it's so important that you pay very close attention to the detail and that you are very meticulous entering it because if you enter one wrong number...I mean you can skew everything. Although it wasn't my favourite thing to do, I did learn a lot. (Julie)

I did some data entry. This involved entering the information from questionnaires into SPSS. I also did data analysis using SPSS. I did several different analyses for the professor, mainly correlations and regressions that dealt with five different datasets. So it wasn't just one dataset but I was using five different ones. (Julie)

During the interview, Julie expressed that she enjoys quantitative research and working with statistics. She also mentioned that the research assistantship provided her with the opportunity to refresh her statistical software skills acquired in undergraduate work.

Allison and Lisa reported being involved in *coding and other aspects of qualitative data analysis*. Allison considered data analysis to be a straightforward process.

So we are doing qualitative data analysis, there is coding, which is so easy.
(Allison)

As reported in the section on transcribing, Lisa's perception regarding transcribing changed after she had the opportunity to engage in coding and interpreting transcribed data. The researcher involved Lisa in the coding process where they would sit together and code based on preliminary codes, at the same time looking for emerging codes. Interestingly, Lisa mentioned that coding the interviews she had transcribed was a totally different experience than coding transcripts done by another team member.

There is another team member who is also doing transcribing and for the first time this month I coded one of her transcripts, which was different again because usually it was very familiar to me because I had done the transcriptions. (Lisa)

Now when I go back to transcribing, I'm actually a little bit more excited because I have seen what the researcher is doing with them and she has involved me in the analysis. She has been really good because we analyze together. We sit down and listen to each tape and we go about three pages coding...we had some a priori codes and then we were changing them along the way. And I'm responsible for updating the codes and keeping track of all the dates—when we change them, why we changed them—keeping separate notes in case we would like to go back.

(Lisa)

It is evident that Lisa's participation in qualitative analysis not only provided her with new research skills but also allowed her to understand and appreciate the task of transcribing.

Julie spoke about *editing* a manuscript. She was very excited about this opportunity since she planned to become published one day.

And then I got to edit a manuscript that was sent off for publication. So I read it all and made sure there weren't any grammatical errors. And then I had to go through and make sure that the references in the text were all the same as the references in the reference list and vice versa. (Julie)

Gwendolyn's research assistantship also involved editorial assistance. She was asked to review published books that were to be updated for a new edition. Her assignment was to select existing annotations and references to mark them as sections that would require updating. She also reviewed a new manuscript.

I really enjoyed the editorial process, he would send me manuscripts and I would look through them and comment not just grammatical stuff but things he didn't extend or I didn't like how it was phrased so I would do that. (Gwendolyn)

Both participants enjoyed the editing tasks that contributed to the completion of manuscripts. Although, the research assistants were not co-authors of the edited manuscripts, the experience provided them with practical research skills for their future publishing opportunities.

Three participants identified *searching for references* in journals and books as one of their assigned tasks. Gwendolyn was assigned to look for different journal articles and books.

I did a little bit of database research for journal articles and books, large quantities of editorial work both on completed books that would be needing revisions and brand new manuscripts. (Gwendolyn)

Sheila and Nikka were asked to look for reading materials for the courses delivered by the researchers. Sheila recognized that the searching skills she acquired

would be useful during her own research project. Further, both participants reported reading some of the literature they found online, since these sources pertained to their research interest.

I learned some research skills from that... mainly looking on websites or how to borrow books out of the library....(Sheila)

During the searching I found articles more interesting for my stream of study so I just picked them up on the way and just started reading for myself. (Nikka)

It is important to notice that two participants indicated an additional benefit, aside from reference search skills: Sheila and Nikka expressed that they found references relevant to their own research.

Katerina and Allison were both engaged in *conducting literature reviews* during their research assistantships. Katerina preferred more advanced tasks to basic tasks because the advanced tasks allowed her to learn concrete research skills and contribute more to the research project. Allison stated that it was a first time for her to conduct a literature review, so she was not sure how to do it and therefore the researcher took time to explain the task.

Allison spoke about her third contract where she was engaged in finding diverse quotes from original sources. She thought that this was an easy, not highly educative task but she considered other benefits from the overall research assistantship experience.

So I accepted research assistantship C and with his work it is fairly simple but I do see a future in it. He is working on a book, he has an anthology with a bunch of quotes that he is taking out of it so he wants me to find the original books and find these quotes. So it is pretty easy but long term he said that when he gets the

quotes out of there, he wants to write his own book. I guess he wants to see what my work ethics are...So he said, if things work out, I want you to help me with the book, too. There are some other tasks that need to be done so I was like yeah, of course, I do the easy stuff now and then the good stuff will come up later.

(Allison)

Conducting a literature review is a common task assigned to graduate student research assistants (McGinn & Lovering, 2009). It is interesting that Katerina considered conducting a literature review an advanced task, while Allison without having previous experience with literature searches considered it basic and easy. Based on Katerina's overall comments related to the research tasks assigned, it seems that she might have considered conducting a literature review as an advanced task in comparison with doing charts and tables. She admitted learning from all the tasks but had to motivate herself to do some of them while others she found more rewarding. One of Allison's assigned tasks was to *prepare an annotated bibliography*. The researcher demonstrated how to use the bibliography software since the last time Allison had used it was in her undergraduate studies.

So I said of course and then she asked me to do an annotated bibliography, which I had never done before, except in my undergrad. So I told her that and we set a meeting...we went to her office and she showed me how to do an annotated bibliography. She showed me how to do a...what's the other one...literature review. I thought they were the same thing so she showed me the difference between the two. So now I have to do the annotated bibliography for her research.

(Allison)

Nikka, after searching for diverse journal articles, was asked to insert them into an EndNote library. She was excited about using the electronic bibliography software because just a few weeks prior she had attended a workshop dedicated to EndNote and was eager to put her knowledge into practice.

Julie reported that after entering and analyzing data for the project, she was asked to *prepare a presentation* using Microsoft PowerPoint. Having significantly contributed to the research project, Julie became the co-author for a conference presentation. She did not co-present, but she did attend the session.

Throughout the year, each faculty member presented their research and current projects they were working on. I helped make the presentation come together, but it was just the professor who presented. (Julie)

Julie also talked about learning how to be selective in transferring large amounts of information into a PowerPoint presentation. She recognized the transferability of this skill for her future research.

When I do my project or thesis I will want to present at a conference so that is something I will have to do. I will probably have to take a 100-page project and put it in the format for the presentation. Also, doing the PowerPoint presentation is really hard like putting together little diagrams. The researcher wanted specific diagrams so it was hard to make those. I learned how to do that because I never did that before. I had to teach myself how to do that and how to export, import and make it fit. (Julie)

Allison expressed being grateful for all the presentation and publication opportunities that the researcher provided for her. She explained that at the very

beginning of her research assistantship, the researcher identified short-term goals such as learning about transcribing and annotated bibliographies and the long-term goals that would involve attending conferences and publishing manuscripts. Allison realized early in the project that this experience would not only allow her to learn research skills but also improve her personal skills and build her academic curriculum vitae.

And I have noticed, with her past research assistants, she allowed them to come with her to the conferences and their names would appear on the paper. She did publish with her research assistants as well. So I really admire this selflessness about her. And this also has excited me about the research because I know that there is a benefit for me, not only with my personal and my technical skills but in a sense that I will get something out of it, too. Not that I will be just helping somebody else and build up their CV but I'm developing academically and also personally. (Allison)

Similarly, Lisa was involved in diverse elements of the research project (transcribing, coding, interpreting) when she was asked to prepare a presentation and then co-present at a national conference. Lisa expressed being honoured when the researcher asked her to co-present, although, she admitted feeling "slightly out of her league." Not being an academic, she was extremely excited about successfully addressing questions from the audience and receiving many compliments from attendees. She emphasized that this experience was not only valuable for her graduate work but also for her career.

I guess, first of all being asked to go and speak, that in itself was an honour, speaking with a professor, feeling slightly out of my league as I said...At first I thought, you are talking about a phase that I wasn't even involved in and so that

was a really big turning point to see that the presentation went really well. I just needed the confidence in myself, the professor kept saying you will be fine, you read the published article, we have talked about it, you know the work, you made the PowerPoint presentation so what's the problem here. And they asked some questions and I was able to answer them. People came up to make comments and ask questions at the end...it was a break-out session, and people throughout the conference who I met over coffee said I was at your session, it was really good and it made me think of such and such...So that was a huge point for me, not being an academic, if you like, to be in that circle and to be recognized. (Lisa)

Sheila talked about being encouraged by the researcher to present at a conference. However, she expressed feeling unprepared to co-present since she did not contribute enough to the research project. She recognized that it would be beneficial to experience how conferences are organized.

I don't think I have enough research results to present, to share with others. So I want to do my project and to see how it goes and then I will try to present...By then I will be able to share my research results. I will have something to present. Now, I could just co-present because I know what my professor is doing but that's not my own idea. I want to share something of my own. (Sheila)

Toth (1997) states that conference presentations are very important for graduate students because "conferences are the places where you can make a professional name" and where networking can bring "jobs, recommendations, knowledge, and (yes!) more conferences" (pp. 45-46).

Katerina reported *identifying potential publication outlets* for the researcher's manuscript. She believed that the skills she learned by performing this task would be beneficial for her thesis research.

She had me look into journals because she wanted to publish a manuscript. I had to research what different journals look for and what style they want and how many words and things like that...how to match the journal to your topic...And you know I may not recognize that I learned so much from it now but down the road when I'm actually doing it, I'm going to fall back on that experience.

(Katerina)

Gwendolyn was also assigned to look for publication outlets. She reported being interested in learning the skills related to the assigned task but not receiving enough guidance to proceed.

I didn't know enough about their subject area, I wasn't familiar with types of journals that they published in normally, I didn't know how to find them out, whether or not journals would review their book, how do you inquire about having your book reviewed. This was all the stuff that I wanted to learn but they just sort of left me there.

(Gwendolyn)

Participants considered learning how to look for publication outlets an important research skill to acquire. Gwendolyn concluded that although she was keen to learn the skill, she did not receive enough instruction in order to complete the task. This suggests that more clarification may be required when participants engage in research tasks for the first time.

One research assistant described opportunities to be engaged in *publishing* activities. During the research assistantship, the researcher and Lisa submitted a proposal for publication. Lisa explained that the researcher was always looking for other publication opportunities that could result from the research study.

We also recently put in an abstract for a call for papers; we haven't heard back yet...so some of those writing tasks around that. It's always been made known that it [publishing] would come in the future, so to keep background notes. (Lisa)

By the end of it [the research assistantship], I anticipate having done everything except interviews because I think we will get some publishing out of it. (Lisa)

Katerina approached the researcher and asked about the potential of a publication coming from the project and she received a discouraging comment. The researcher explained to her that she should not be thinking about publishing during her master's studies. After this experience, Katerina hoped for a future research assistantship with a publishing opportunity.

At the beginning of the term I had emailed the researcher from project A saying that I'm really interested in publishing because that's important to get into a PhD... having published or having experience publishing so if there were any opportunities to let me know. And she basically sat me down and said that as a master's student you are not ready to publish and you shouldn't be worrying about that. (Katerina)

The reason for the researcher's comment is unknown. However, based on other studies (Grundy, 2004; McGinn & Lovering, 2009), it is evident that research assistants

benefit significantly from engagement in advanced, intellectual tasks that contribute to knowledge generation.

Some research assistants were involved in *organizing documents and references*. Sheila was asked to organize hard copy references in alphabetical order and put them in binders. She decided that it would be helpful to emphasize authors' names for easier identification of articles. Although this was a basic task, Sheila was committed to doing the best work possible.

I highlighted all the authors from the references in his binder and I would reorganize them. So I found ways that he can find the references easier. (Sheila)

Lisa talked about being in charge of organizing all the documents from data collection and data analysis. She admitted that keeping everything organized is not her strength; however, she recognized that it is a critically important skill while conducting research.

I'm in charge of organizing all of the data, so keeping the copies of everything and that's not one of my strong points...I sent out everything for the membercheck and I'm collecting all the information from that. (Lisa)

Since both Sheila and Lisa were involved in more than one research task and organizing the documents was not the only focus of their assistantships, they found this task an important element of conducting research. Maintaining files, on its own, may not have been perceived as a particularly beneficial learning task.

Participants engaged in a different range and number of tasks from which they acquired research knowledge and skills. The majority of the participants recognized completing tasks as a practical and beneficial approach to learning research. Further, they

reported gaining research skills pertinent to their graduate studies and research thesis. Some tasks were considered more rewarding than others. A few task were identified as tedious and less useful, however, there is a potential that with time participants might recognize value of these tasks in their future research.

Approaching research tasks. Participants provided a variety of reasons that affected their approach to and completion of the assigned research tasks during their research assistantships. Lisa spoke about constantly evaluating her own work and asking herself “is it good enough?” She mentioned that this critical evaluation on her part was influenced by a multilayered relationship with the researcher. As a research assistant, Lisa experienced extra pressure because the researcher played other roles in her academic life.

I do find it hard to fit it in with what I’m doing, probably because of the need to concentrate so if you were doing a different 10 hour per week job on top of the job that didn’t take such a level of concentration and I’m not being graded but because it’s a professor and because I know them and they know a lot of other professors I know, there is always this sense of “is it good enough?” It’s not that I just put the time in and here it is. I probably put that on myself but it sort of extends the feeling of being a student with an assignment that’s due and it’s going to be late or not good enough. (Lisa)

Further, Lisa talked about investing more time in certain tasks than anticipated and not reporting that in her timesheets. She assumed that she should not be paid for performing research tasks slower than others.

I don't put in true timesheets because I know I'm really slow...And I think I'm not going to charge her because I'm slow or not a typist. But then on the other hand I think, if she would hire a typist she would have to pay a lot more. (Lisa)

Gwendolyn spoke about the researcher running out of work for her. She clearly stated that she wanted to do the work in terms of completing the hours she was contracted for.

Well, I was getting paid for that and I wanted to do the work.

When the researcher finally assigned the tasks to complete outstanding hours, Gwendolyn was engaged in writing her own research proposal and had very limited time to dedicate to the research assistantship.

And then it got to the point where I was crazy busy trying to get my proposal done. So if I would have to balance both things then my work would come first. It is more important. (Gwendolyn)

Similarly, Allison did not perceive her research assistantship as an employment opportunity where she could gain income; her intentions were purely educational. It seems that Allison was looking for a win-win situation where she could assist the researcher with the research project and at the same time build her research skills and her curriculum vitae. She expressed her interest in research assistantships where she could develop academically and personally. Allison elaborated that she was trying to avoid research assistantships where her work would not be recognized.

And that's the kind of experience that I was trying to avoid. I don't want to do somebody's dirty work. I was offered a research assistantship by another professor and I knew that it is just the work that he doesn't want to do. I'm not

going to waste my time even though it is good money; it is not really worth it. I'd rather spend that time on the opportunity that might be a little bit harder but it will pay off in the end. (Allison)

On the other hand, Katerina assumed that since she was getting paid for the research assistantship, work assigned by the researcher came before her graduate work. She engaged in the research assistantship not knowing it was supposed to be an educational research experience. She discovered that piece of information after the contract ended.

A couple of weeks ago, I learned that research assistantship is about learning. I think it was on my contract or I found it online but the purpose was stated as an experience for students to learn research, to get hands-on experience. So I didn't really know that from the beginning, I thought that I'm getting paid to do this so I do whatever you want me to do. And I also didn't know that I could say "no" to tasks. If I had a full course-load and my professor needed something, I would make sure that she would have it done. I felt responsible for helping them.

(Katerina)

As described, the multilayered relationship with the researcher influenced participants' approach to undertaking tasks. It is worth noting that some of the participants saw their graduate work as a priority that needed to come before work assigned for their research assistantship, while others, because they were getting paid, approached their assistantships as jobs that needed to be prioritized.

Building skills and confidence. Participants reported acquiring diverse research skills during their research assistantship experiences. Some of them recognized that

gaining research skills increased their confidence in their abilities as valuable research contributors. Lisa spoke about becoming more confident with time, getting engaged in more research tasks. She emphasized that the confidence did not only come from the research skills that she acquired but also from making sense of the entire research process and understanding the interconnection of each research element.

What it really developed for me, was it took away the mystique of it. Because I had thought that research...and I don't mean to say it's not academic, I thought it was an extremely hard, elite thing...and qualitative research especially. How would you know what to pull out? And what if you completely changed what the person meant? I just thought it was something way out of my league and grasp. Having done it now and seeing the more mundane things but also seeing the common sense sort of elements and how the codes just repeat themselves, it is something I can do now. It's something I feel more confident in doing and I think I could do it in the future or take part in it. If someone in the past would ask me to co-author a paper, I would have thought no, that's above my league. (Lisa)

Julie provided an interesting example of being intimidated by the word "manuscript." However, having the opportunity to review a manuscript during her research assistantship served not only to eliminate the intimidation factor but also to increase Julie's confidence in publishing on her own.

I definitely learned more about myself. I gained confidence because the word "manuscript" seems so scary but actually being a part of that and seeing what it's like, it's not really that difficult. I know I can do it so I feel more confident. I would really like to get a publication. Before, I was not sure if I could publish a

manuscript or do the thesis, but from this experience I feel more confident about myself that I could actually do this. (Julie)

In addition, Julie spoke about learning the value of teamwork.

I really learned the value of collaborative research and the value of the teamwork. Because the research cycle really involves you to work as a team. You can't do it all by yourself because there is just so much to do. Teamwork is important when it comes to research and I felt like a part of the team because everyone played their own roles. Although we didn't necessarily work in one group, we all had to do our parts to make the big picture come together at the end. (Julie)

Allison considered her research assistantship to be a prestigious position where she learned time management and acquired organization and communication skills. The research topic of the project, as well as the researcher's interviewing technique allowed her to better understand how to communicate with others. Further, Allison admitted having become more independent and mature because she was treated as an adult responsible for completing various tasks.

And even relationships with my friend, I know how to ask them to do something for me without making it seem like an order. I know how to communicate better. I think I have matured and not just because I'm older now. I think it's because I feel more as an adult through my research assistantship because I'm treated as an adult. Whereas, in the past I felt like I don't really matter because I'm just an undergrad. Now, I'm a master's student and a RA, which is prestigious without sounding that I'm full of myself. It is definitely an accomplishment. So I act more

mature, which is kind of funny...so that's how the research assistantship helped me in my personal life. (Allison)

She also helped develop my own personal skills, in terms of independence, to manage my time efficiently...because we have weekly meetings so it's not a job that I can slack off on. It's not a job where I can just pretend that I did something and I didn't. So I really had to be on top of things. I can't slack off, I have to do my work and meet the deadlines. So as I said, it really helped me with my personal skills. I'm just really grateful for that experience...My relationship with her is like I don't see her as my boss...I don't see her like that. I see her as a person who is mentoring me and it's helping me. And she sees me as a colleague, a co-researcher. There is no hierarchy in our relationship. (Allison)

Further, Allison talked about the researcher encouraging her to attend different workshops in order to build her research skills. She appreciated this opportunity because she would not have made time to attend these workshops on her own. She recognized that learning research skills during the workshops prepared her for other research assistantships. According to Allison, other researchers were interested in having her as a research assistant because they knew she had the skills they were seeking.

The person I'm working for is giving me the opportunity to go to workshops like SPSS workshops and other computer program workshops. She encourages us to go and she allows us to use this time as part of RA hours. So it's excellent because I'm getting so much exposure and I'm learning skills that I wouldn't have time to do. But because she is giving me the hours, I'm going and doing it. I think

that's one of the reasons why I have other professors that want me to work for them. Because they know that I have attended these workshops. (Allison)

Lisa spoke about gaining confidence in her research skills and recognizing the value of her contributions as a team member. As Lisa explained it happened when she was able to "see the whole package and see the purpose of all the steps." She also noticed that her confidence increased after receiving participants' positive verification of the transcripts.

I had taken the first transcript through the entire cycle. So I had transcribed it, we analyzed it, coded it. I also made the synopsis sheet then, that's for the participants but I also made a coding sheet that's for our use. So I could see the whole package and see the purpose of all the steps then send it out to all the participants who sent it back and said great, no problem just clean up the likes and the hmmms and I'm happy. So that gave me a lot of confidence because before that I was only seeing it in a piecemeal sort of approach, we are going to transcribe and transcribe a whole bunch of them, then go back and code and in a different order. So the first full cycle gave me a lot of confidence. (Lisa)

Lisa spoke about questioning her research skills at the beginning of the research assistantship. She admitted having experienced the impostor syndrome (see Gravois, 2007), which was partially conquered through the researcher's acknowledgement of her research skills and trust in her potential.

I find myself being a participant much more, whereas before I wouldn't have done that either because I didn't think that I would have anything important to say. And

now I sort of leave that up to the researcher, the researcher will decide if it is important or not. (Lisa)

I think I always had a bit of impostor syndrome. And this helped a lot. Just having this person that I think is incredibly accomplished and intelligent listening to me and being interested in what I have to say ...So to have this person that seems to enjoy our conversations and get things out of them I think gave me a lot of confidence in myself and in my own opinions and in expressing them. (Lisa)

Similarly, Nikka questioned her research potential, contemplating “maybe I don’t have the ability to do this job.” Her confidence increased after she completed assigned research tasks and her work was recognized by the researcher.

So actually during the job, while reading through the articles, I got more confident because I can find articles that the professor asks for. Even after she got the articles she told me like most of them were very useful she even wanted to use some of them in her class for the students as reading materials so that she told me I did a very good job and it really build up my confidence. (Nikka).

I am so glad that I could meet a good mentor who could make me comfortable about doing a real research. In a way, my first fear about being a researcher diminished a bit. (Nikka)

Participants recognized that getting engaged in more research tasks allowed them to learn research skills and therefore increase confidence in their abilities as research contributors. Lave and Wenger (1991) state “The mastery of knowledge and skills requires newcomers to move toward full participation in the sociocultural practices of

community” (p. 29). The voices of participants indicate their progress toward becoming full members of a research community of practice.

Understanding research. The engagement in diverse research tasks and meaningful conversations with other researchers advanced participants’ understanding of how the tasks interconnect and how they fit in the context of the entire research process. As a result, they started to perceive research as more accessible. Julie and Lisa expressed satisfaction with research assistantships that exposed them to many stages of the research cycle. Both participants appreciated the richness and diversity of their research experiences.

Being able to be a part of the conference...and seeing how one goes from putting together slides to how it all came together in the end and have a big picture of it ...I learned a lot from that...it was interesting to see what you have to do. I feel really lucky because I got a chance to be a part of the entire research cycle. I got to see how you go from the beginning of the study to actually getting a publication, which is the most important part. Because you want to project it to the public and you want people to read it and you want to be rewarded from it. So I really got to go from point A to point B. (Julie)

Lisa also spoke about having the opportunity to engage in every aspect of the research cycle.

I’m in charge of organizing all of the data...I sent out everything for the member check and I’m collecting all the information from that, so pretty much the whole process. By the end of it, I anticipate having done everything except interviews because I think we will get some publishing out of it. (Lisa)

Lisa reported having many conversations during research meetings about how the researcher conducts research and why it is done in a certain way. These deeper conversations provided Lisa with a better understanding of what the research involves and how the researcher makes decisions. Lisa mentioned conversations about research misconceptions, different research methods, as well as her graduate work and future academic plans.

And then a lot of talk about qualitative versus quantitative, qualitative processes, misconceptions in research...I guess, just deeper epistemological talks that are helpful for me in thinking about research in a wider sense not just related to the topic. (Lisa)

She [the researcher] really believes that RA opportunity should be a learning opportunity and mentoring. So we have a lot of side conversations, too. We have a lot of conversations about how she does research and why she does it in a certain way. ... And then we always stray off and talk about how my master's is going...whether I will do a PhD. (Lisa)

Lisa expressed that her research assistantship and graduate work allowed her to see research in a different light. Before she engaged in research assistant work and before she started her MEd, she placed research and researchers on a pedestal. After seeing how research gets done and what it involves, this perception was demystified.

So I guess it is demystified and more attainable. It helped me...when I read now other people's research, to sort of imagine the process they went through. And to put it into context, it's not a definitive point of view on this topic because this person did what I did and it's an interesting take on it. Whereas before my RA

work and before I started my MEd, I put research and the researchers on a higher pedestal and thought if it's in print this must be something. (Lisa)

Sheila also declared that her research assistantship helped her to see research and research articles as more accessible than she had previously believed.

Sometime when you try to read some academic articles but you get the feeling you try to put it away you don't want to read it because like the stuff is way too serious for your brain to digest, it's kind of scary but if you do enough research assistantships you find out maybe it's not that hard. You can skim through the article and find out a key word. So it kind of forces you to accept the habit of reading. (Sheila)

Katerina stated that through her research assistantship experience, she realized that the topic of a research assistantship project does not have to connect to your personal research interest or exit requirement. She appreciated learning from other disciplines and other research areas that were novel but could become future areas of interest.

Learning Beyond Research

Learning beyond research refers to the valuable lessons that participants learned during their research assistantships that were not directly related to research knowledge or research skills. When I asked participants whether there were any lessons that they took away from their research assistantships that were not directly related to research, they reported learning (a) what being a professor involves; (b) what doctoral studies imply; (c) how to find or change research advisors; (d) how to advocate for their own research; and (e) personal lessons that they were able to take away from their research assistantships.

What being a professor involves. Five participants described learning what being a professor entails. Three of them came to the master's program with the intention of becoming academics, and two began to consider this possibility during their graduate work, partially influenced by their research assistantship experiences. For instance, Katerina noted that during her research assistantship, she gained knowledge regarding what being a professor means and what responsibilities this profession entails.

It's interesting because I was thinking about it yesterday. I think I learned a lot about what it means to be a professor. So what are the activities that a professor engages in on a daily basis, the responsibilities, and even the politics that go on in the faculty and in the university, politics that go on in the school boards and things like that. So that was interesting learning experience. (Katerina)

On the same note, Allison was grateful that the researcher invested time in providing her with rich and honest information regarding his profession, which allowed her to make an informed decision about her future plans. In fact, she realized that being a professor is not exactly what she imagined.

He is blunt about everything, he doesn't sugarcoat anything for you and I think that's admirable about any professor to be blunt with their students. With him, he was kind of giving me the other side of what it means being a professor. So what I had initially thought it was like, it's not really like that. It's making me realize that there are different facets of being a professor and what else it entails besides researching and publishing. (Allison)

That's another thing that I really admire about him is that he doesn't sugarcoat anything for you. He just tells you straight up what's going on and what you

should do about it. So that really helped me in the sense that now I know that being a professor is not everything that I wanted to be. (Allison)

Similar to Katerina and Allison, Julie planned to become a professor. Therefore, she greatly appreciated all the knowledge she gained regarding her professor's career. She spoke about having experienced the professor's passion for research and dedication to the research process.

And I also learned that being a professor is more than just a job, it's a lifestyle.

And how dedicated and passionate you have to be about what you do. Just seeing the professor I worked with, he is here so much, you really have to love your research and be involved in everything, so it is a lifestyle. And if that's something

I want to do then I have to be passionate about it to be as good as him. (Julie)

Sheila also expressed learning about her professor's work and his dedication and devotion to research.

I experienced how much effort and devotion professors contribute to their research. I really appreciate that, and admire them and learn from them of their professional spirit. I truly know more about my professor's job and I know that if the professor wants to do research the school will support that. (Sheila)

Lisa stated that interacting with the researcher allowed her to see a realistic image of researchers. She went on to explain that her research assistantship allowed her to reflect more realistically about potential doctoral studies and a future academic career.

So that has broadened my experience as a whole and it has helped me see another side of faculty—as you said, a human side of them—which has been important as I finish my courses. Thinking about the future, I would like to be involved in

research. I'm not sure about a PhD but I would like to keep involved as a part of a team. (Lisa)

Having the opportunity to gain insight about what a typical day of being a professor is like allowed the participants to evaluate whether they really want to become professors. Conversations with the researchers broadened their understandings and gave them chances to make informed decisions.

What doctoral studies imply. Four participants voiced gaining knowledge about doctoral studies. Julie spoke about the researcher encouraging and motivating her to complete a thesis rather than a project in case she decided to proceed with further studies. The researcher made it clear that Julie would be a great candidate for a doctoral work.

He thinks that I should do a thesis not a project. He always says you should do it and he is very motivating...I would almost feel bad if I would decide to do a project...He said that not many people in education do the thesis most people do the project. So it would give me more chances. And he knows I can do it so why would you settle for less if you can do it...He really thinks that I could do it and I should do it so I think that has put a lot of confidence in myself and a change in my thinking that I would never do it. I'm open to doing it and we see what will happen. See where my path takes me. (Julie)

I have a great relationship with him. I can go to him with anything...I talked to him several times even about my own project and my coursework. He was a lot of help in every aspect...I feel so lucky to have him. He is a really good mentor. (Julie)

Lisa, Allison, and Katerina reported having many conversations with the researchers about their future academic plans. Allison appreciated the realistic picture that her researcher shared with her about what doctoral work involves.

And I have also talked to him about when to apply for a PhD and he has given me great advice on that. I received really good advice from other professors too, but you know everyone is so positive...yeah, you can do it but with him it's like yeah, you can do it if you are willing to do this and this and this. So he is more realistic.
(Allison)

Katerina expressed that her research assistantship made her reconsider her previously chosen research topic for doctoral work. She also began to consider asking the researcher to become her PhD supervisor.

I do plan on getting my PhD. I will be applying next December or January so starting in the following September. I do lack focus because right now I have one topic for my project but through my research assistantships...they've opened me to different areas of research. And now I'm trying to figure out where do I fit. What do I want to do for my PhD and it is a huge decision because for the 3 or 4 years you are dedicated to that one topic. You are not married to it but it is important.

Professor B, I would go to him to look for future advice. I am thinking about doing PhD work with him like going into his area. (Katerina)

It is evident that the participants were seeking information as well as guidance regarding doctoral studies. In fact they expressed appreciation for the researchers taking time and providing them with broader understanding of what doctoral studies involve.

How to find or change research advisor. Two participants reported learning what steps to take when looking for an advisor or planning to change a current advisor. The conversations Allison and Nikka had with their researchers went beyond their research assistantships. Nikka reported discussing her coursework, thesis research, and other professors' research. During her research assistantship, Nikka was looking for a thesis advisor and the researcher provided her with valuable information regarding professors who were doing research in her area. Similarly, Allison planned on changing her present advisor since her research interests had changed, and she found researcher C's guidance particularly valuable in her decision making.

I'm thinking of changing my advisor because my research interests are changing so I asked researcher C for his opinion on it and he told me straight up what I need to do. And I did talk with five other professors and what they said was extremely sugarcoated and they all were like oh, you could do this or that and researcher C said just do this and you will be fine. And this is exactly what I needed. I needed someone who would tell me exactly how it is. But I think that if I wasn't his RA, he wouldn't trust me enough to tell me his own personal opinion.
(Allison)

Selecting an advisor is definitely one of the most important decision graduate students have to make. Therefore, having a researcher who can share information about other professors' research interests and supervision styles is very helpful. This is also true for changing thesis advisors as this type of situation can be sensitive and the right guidance can make the process smoother.

How to be an advocate for one's own research. One participant reported learning how to advocate for her own research project. Katerina reported being discouraged by the researcher's comment regarding the topic for her thesis research. Although, she thought that it was not the researcher's place to make such a comment, she admitted taking away from that experience how to be an advocate for her own research.

She did not mean to hurt me. It is just something she believed in...so you engaged in this topic for a whole year so it's better if you do something that is close to your heart. And I totally understand that's the way she is thinking, she was not trying to hurt me but I'm not sure it was her role in my life to say that. But I did learn from it because I went to my supervisor and I said someone said this...Do you think that's true? And he said, no. We are training you to be a researcher and no matter what area it is you are being trained what to do now...Did I learn from that? I guess I did because I learned how to be an advocate for what you are researching. And in fact it just reinforced that this topic is important to me and I am doing the right thing. (Katerina)

There are lessons to be embraced from every experience. Sometimes, comments received from the researcher might appear negative and then manifest in a positive lesson.

Personal lesson. One participant described taking a personal lesson away from the research assistantship. Lisa expressed that her research assistantship had an impact on her on a personal level. She appreciated the opportunity to work with a successful, independent woman whom she considered to be an example.

And that was a really important thing for me personally, to just work with a strong, independent, intellectual woman. And that's way beyond the research assistantship thing. The freedom that I see that she has, the travel and to relate on that basis to talk about different things and non-gender specific things that has been important for me. (Lisa)

As described by Lave and Wenger (1991) learning involves the whole person. Participants came to research assistantships with different experiences, different expectations, and different views. These factors influenced what lessons became for them less or more significant.

Learning and Relationships as the Core Experience of Research Assistantships

The core experience covered the two main themes: Relationships and Learning. The findings show that relationships with the researchers as well as senior research assistants, learning research knowledge and skills, and learning about other aspects of academic life compose the engine of the actual research assistantship. As illustrated in Figure 4, relationships, learning research knowledge and skills, and learning about other aspects of academic life are interconnected.

During the interviews, all participants were asked to discuss tasks they engaged in while working as research assistants. The research tasks described in this section show the potential that research assistantships have to expose research assistants to a broad range of research skills by participating in and completing research tasks. All participants had a chance to engage in two to six different research tasks, which allowed for the acquisition of significant research knowledge, provided the experience needed to build confidence, and contributed to the successful completion of their graduate work. Through

engagement in more than one task, participants had opportunities to understand the research cycle as a whole and not be limited to the performance of routine tasks. As McGinn (2006) states:

Mundane tasks such as photocopying or data entry have limited educational potential and should not be the full extent of a research assistantship. By participating in more varied research tasks, new researchers have the best opportunities to capitalize on the research learning opportunity. (p. 133)

The majority of participants' examples showed the dedication of the researchers in providing learning opportunities and investing time to explain individual tasks as well as their value in the overall research project. Engaging in research tasks and exploring their interconnectedness with other research steps allowed research assistants to understand research. The completion of various tasks made research assistants accountable and made them acquire personal skills such as organization and punctuality, and in some cases made them feel more mature and independent.

Five participants identified lessons beyond research that had positive influence on their graduate work and future academic plans. The researchers shared meaningful information that informed and supported participants' graduate work. These research assistants described feeling a sense of being mentored. Two of the participants did not report additional lessons. According to Gwendolyn, the researcher did not show interest in developing a mentoring relationship, therefore, there were no extra lessons for her to take away from the research assistantship. Similarly, Nikka reported no lessons that went beyond learning research skills.

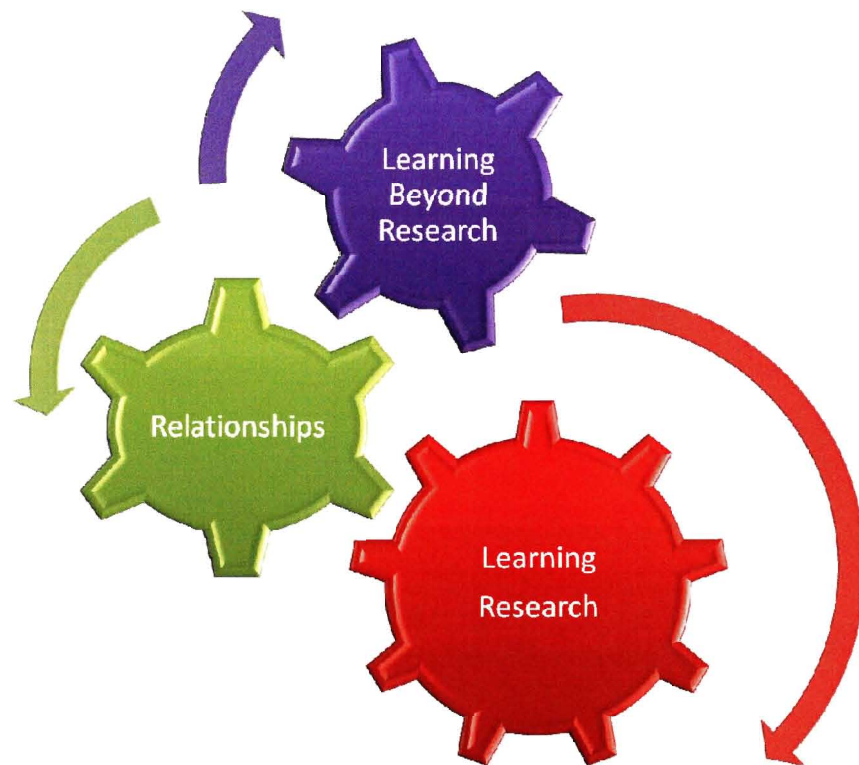


Figure 4. Model representing the interconnectedness of relationships, learning research knowledge and skills, and learning about other aspects of academic life.

In conclusion, the relationships, learning research knowledge and skills, and learning about other aspects of academic life are interconnected. These elements symbolize research assistantships as holistic experiences within which the development of research assistants occurs at many different levels that affect one another.

Looking Forward Looking Back

This section speaks to participants' future educational and research plans based on their reflections looking back at their research assistantship experiences. There are two main parts to this section. The first part demonstrates appraisals of research assistantships in terms of participants' satisfaction and aspects of the assistantships that they would like to see enhanced. The second part refers to participants' future educational and research plans, which in many cases were influenced by their research assistantship experiences.

Participants' Appraisals of Their Research Assistantship(s)

Participants were asked to explain what they believed is the purpose of a research assistantship. Katerina explained that she had just recently become aware of the educational purpose of research assistantships for graduate students. Initially, she was convinced that research assistantships were created for students to assist professors and observe them as they conducted research. Later, she discovered the educational function of research assistantships and recognized their potential to teach graduate students research knowledge and skills through experience:

A couple of weeks ago, I learned that a research assistantship is about learning. I think it was on my contract or I found it online but the purpose was stated as an experience for students to learn research, to get hands-on experience. So I didn't really know that from the beginning. I thought that I'm getting paid to do this so I

do whatever you want me to do. And I also didn't know that I can say "no" to tasks. If I had a full course load and my professor needed something I would make sure that she would have it done. I felt responsible for helping them.

(Katerina)

Allison, Gwendolyn, and Lisa reported being aware from the very beginning that research assistantships are educational spaces where graduate students learn research skills in practical environments while providing assistance for researchers. Lisa added that research assistantships allow students to earn additional income in a university environment while building their curriculum vitae.

I think the purpose of a research assistantship is to allow graduate students to be able to take a glimpse into academia and be involved with ongoing research so that students can apply the experience and knowledge gained into their own research interests. (Allison)

I think the purpose of a research assistantship is threefold: it should develop the research skills of the student, it should create a mentoring relationship that aids the student in

developing skills and learning about collaborative research, and it should provide valuable assistance to the researcher and their project. (Gwendolyn)

I think the purpose is to fulfil the reciprocal role of providing assistance to faculty researchers while offering training opportunities in research for students. Also it allows students to supplement their income with a job in an academic environment, which they should be able to balance with their studies. This helps

build their CV and protects them from having to do jobs in the "outside" world that would encroach on interfere with their studies. (Lisa)

As the participants were describing the purpose of research assistantships, another interesting theme emerged. Explaining the purpose and the potential of research assistantship as a research learning venue, they also elaborated on other places where research learning occurs. In fact, participants identified three main research learning venues: research assistantships, research courses, and internships. Few participants spoke about the research knowledge they acquired through research courses and how their research courses and research assistantships complemented each other.

I'm taking another class which is about educational research methods so when we talk about certain things that you do and you don't do I know from what I have done with researcher A what are the course professors talking about. Because I had the experience of being an RA I know what it is. (Allison)

Gwendolyn described her disappointment with her research assistantship experiences. She spoke about learning research skills through her graduate research courses as well as her independent work and then figuring out things on her own. While Gwendolyn recognized an internship as a potential space to learn research, she decided not to undertake one because she believed it would not relate to her research interests.

The other thing about internship, I always stayed away from internships mostly because I assumed that I wouldn't be interested in what they were researching. So I didn't want to go into something that I wasn't passionate about...If there would be something that I was really interested in, then I would be happy to give twice as many hours than what was required of me to do that. So I don't want to go into

something that I know I will not give a hundred percent to. (Gwendolyn)

I think 5P92 [the required research methods course] was really good. I got lucky to have a really good professor for it. She is fantastic, like it gave me a good background but a lot of what I do I just learned on my own. I had to figure it out on my own. (Gwendolyn)

Katerina and Julie attributed learning research knowledge and skills to their research assistantship experience. However, they both recognized the value of research courses and previous research experience at the undergraduate level. For example, Julie spoke about using her course assignments to build her thesis research. Katerina emphasized “I think I would have struggled. It would be a lot about trial and error. And now I feel like I’m prepared to start my research because of my research assistantships.” Julie commented that the research assistantship prepared her immensely for her own research project. The research skills she learned during her research assistantship made her feel more confident and less stressed about doing her own thesis research. Further, she added that her research assistantship left her feeling better prepared to conduct research than she felt after her research course(s).

The methodology course was more general and looked more at types of methodologies that you would use ...we didn’t go over the ethics process, we didn’t go over confidentially. And those are things that I have learned through my research assistantships. For example, what school boards look for in the ethics application or what to do if they decline your proposal the first time and this did happen so these things I learned in my research assistantships. (Katerina)

Course work definitely is important and through my course work I got to do papers that relate to my actual research project. So I can use pieces of essays that I wrote for my actual project. But in terms of the research cycle, what really helped me to do my project was experience from the research assistantship and my undergrad. I did a thesis already so that also makes me feel prepared and confident. But as an undergrad, I never saw a manuscript and that kind of stuff. So all this prepared me I guess. The research assistantship I feel was very important in preparing me and making me feel more confident in what I'm doing. (Julie)

And I think it's so different being taught research and then actually doing it yourself. I think that's so important because I will feel less stressed when I do my project compared to someone who hasn't been a research assistant. They just learned in courses how to do it and now they have to do the actual project and that's why I feel more prepared. I have already done it and I will bring those skills that I learned through being a research assistant to my actual project and be that much more confident and that much more prepared and hopefully do that much better. (Julie)

Lisa, Sheila, and Nikka expressed that research assistantships provided them with the practical counterpart for the theoretical aspects learned in class. According to Nikka, every student should get engaged in research assistantships during graduate work.

I have a friend who is a TA, and that's completely different learning experience, but the other day we were talking about our final projects and she had so many questions about the process...how do I do this? Where do I go for this? And I knew about these things because of my research assistantships and she had no

idea. I can't say that every student should be required to have research assistantships because not everyone has the same goals as me. However, if you are looking to learn about the research process and things like that, a research assistantship is definitely helpful. (Nikka)

When asked if the research assistantship met participants' expectations, the majority of participants reported having a positive, rewarding, and beneficial experience. Overall, the experiences were described as invaluable for the completion of master's degree programs as well as future academic plans. Two of the participants had multiple research assistant experiences. According to them, each of the contracts provided opportunities to acquire different research skills and learn interesting aspects about academic life.

Yes my research assistantships went above and beyond my expectations. I have learned a lot of skills and techniques, which I will apply to my own research interests...So that's one of many positive things that I saw come out of it. Long-term wise, researcher A and researcher B have given me an inside perspective on what it is to be a professor and do research. And that's perfect and great but researcher C was more realistic talking about academic life. (Allison)

Katerina reported that her research assistantship prepared her for the research study she has to conduct as her exit requirement. She spoke about learning research skills and acquiring confidence as a researcher. She also described the value of learning first-hand the degree of dedication and work involved in a research project.

Yes, my research assistantships did teach me a lot more about the research process than I expected. I had learned many basic research skills during my

undergrad but through the MEd research assistantship I learned it in a more sophisticated light. I learned the ins and outs of research at a professional level. It was an invaluable experience for me. (Katerina)

And you know I may not recognize that I learned so much from it now but down the road when I'm actually doing it, I'm going to fall back on that experience.

(Katerina)

Just overall, my experience as an RA and being in this program has been extremely positive. Being his RA was a great learning experience for me because I got to do so many different things, it's not that I was just doing data entry. It was very rewarding and I feel very lucky because not only do I get to have an advisor in Education but I kind of have him, too. (Julie)

Lisa spoke extensively about being excited to be part of such a valuable research study and being satisfied to have meaningful work: "I could see a time where I was involved in something like that and not getting paid." Lisa and Nikka enjoyed the learning process and expressed feeling less intimidated by the research process.

Yes, very much. It is way beyond my expectations. I am so glad that I could meet a good mentor who could make me comfortable about doing real research. In a way, my first fear about being a researcher diminished a bit. (Nikka)

Only one participant expressed disappointment with her research assistantship experience. She became a research assistant hoping to learn research skills that she could utilize in future research projects and to develop a mentoring relationship with the researcher. After her contract as a research assistant ended, she questioned her choice of this particular research assistantship. She also mentioned that going into her next research

assistantship, she will be more aware of what to expect and how to communicate her expectations to the researcher at the early stages of the project.

For first couple of meetings, he was really good about getting me on the same page...where to expect readings to be or what sites to look...getting me familiar with the area that he was researching. But past that, there wasn't much mentorship...It didn't really go where I wanted to go. I felt out of the loop by the time we were half way through the research assistantship...I really didn't feel connected to the work. I felt almost like I was wasting my time and I didn't like that feeling at all. (Gwendolyn)

I wouldn't really call it a negative experience but just not what I expected. I'm disappointed. There is no animosity and there is no anger but it feels like ok, I did it but it doesn't have a lot of meaning for me. (Gwendolyn)

During the interviews, participants described what else they would have liked to have learned during their research assistantships, what areas they would have liked to see enhanced, and what they expected from future research assistantships. It seems that most of the participants expressed interest in learning research skills they would need for the successful completion of their exit requirement and future research endeavours. Further, participants addressed that they would like to see more feedback, more information about the overall research project, and meetings that would involve all the team members.

Katerina would have appreciated more information regarding the overall projects and clear feedback regarding her work. In terms of research skills, Katerina and Nikka were interested in learning and enhancing their writing and interviewing skills.

You see it's more like you have to wait for the chance, it's not like I want to get a chance to interview people but there is not always the chance for you to be hired as a part-time researcher to get involved in the process of interviewing so that's something missing I guess. I really wanted to get my hands on it. (Nikka)

I would like more writing experiences because writing for me is a hard technique. I have been doing it since my undergrad but I feel that it is still a struggle. And every time that I feel I'm doing well, someone looks at my papers and there are red marks all over the place. So if I had more opportunities to write with my professor and get feedback, I think that would help a lot. (Katerina)

Maybe more interviewing because that's a skill in itself and it takes a lot of practice to get that down...Getting involved more with the content...Doing a literature review for her and telling her what I have found from it. Maybe even having her inform me more about what is going on. She did involve me in a lot of steps but I didn't really get the explanation of her work. She never explained this is what I'm doing, this is what I found so far, and this is what I want to look into some more. Actually, I have to say that...I did not get a lot of feedback, which would be very helpful. You know...you did well on this, you could improve on this, or next time try to get this over that. So I think feedback would have been nice. (Katerina)

Lisa spoke about being interested in meeting other team members and having the opportunity to discuss various elements of the project with other research assistants instead of being limited to conversations with the researcher. Similarly, Sheila voiced the need for a space where research assistants can share and learn from each other's

experiences.

In a sense, it seems to me that there is still a piecemeal approach to the project in that I haven't met the other people on the team. I think it would be really good for us to come together as a team. I know what I do and I'm assuming it is being done in a parallel process with someone else. It would be nice if we did it together and if I had a chance to speak to that person on a different level. I can express any concerns or fears I have to the professor but only to a point. Because I'm not going to really come clean and say, I was terrified that this was not good or I put in a timesheet that said I did a synopsis every week and really I had to do them all in one day because ...things like that. And talking about how to balance time and those sorts of things...And I would like to just have somebody like a peer that I could talk to about those things because I'm not going to bring them up with her. Having that different level in the team would be good...I don't think there is a big hierarchy between the professor and me, I feel like a colleague, still, there is something different to having your direct peer. (Lisa)

It would be better if there could be some experience sharing among different research assistants. I know there are many TA workshops and meetings to make their work better, but for research assistantships, it is little, or none. (Sheila)

Gwendolyn expressed interest in working as a research assistant on a project related to her own research area. Interestingly, she pointed out that collaborative research experience can counterbalance the independent nature of graduate work. According to Gwendolyn, knowing how to collaborate with research team members is an important skill. While Gwendolyn's research assistantship involved qualitative research, she looked

forward to learning quantitative research and anticipated that she would engage in a mixed methods project in the near future. Sheila was also interested in working on a quantitative project despite the fact that she had no experience with quantitative research and found it somewhat intimidating.

I would love to have an experience as a research assistant on my own research or a related area that I can get into. I would love to have the opportunity of doing collaborative work with people because the study I'm working on right now, I'm doing it totally by myself. I present by myself, I write by myself, everything is done by me. I would like the opportunity to do collaborative work and learn how to do collaborative work because most work that you do during master's...90% is by yourself, writing different papers. I think that's a skill that I need to learn because I don't think I work as well with other people as I could or should. So I think those skills along with my research skills I want them to be developed.

(Gwendolyn)

It would be interesting to see someone else code something but after having done my own research, I think what would be good for me is to learn how to do quantitative work...Mine is qualitative. And my next research project will likely be a mixed methods type of approach. I find quantitative work a little bit intimidating but I think it is an important skill to have. So that's something I would be willing to do during an RAShip or to learn that in class because it's not something I can teach myself. (Gwendolyn)

I would like to do more quantitative research but it would be very challenging to me because I'm not good at math. But I know that you can use some software to

do the quantitative study. So I want to experience that. Maybe I won't use that in my research but I want to learn that. (Sheila)

Julie and Sheila both stated that they were looking forward to new research assistantships where they could learn new research skills. However, Julie emphasized that she had limited interest in data entry work.

I would like to try other research tasks, different from the ones I experienced in this research assistantship. I want to explore more. (Sheila)

I did put my name in the book in the Faculty of Education to be contacted if anyone needs an RA. I didn't hear from anyone so I don't know. But I did contact some professors within Education to see if they were looking for RAs but most of them weren't for the spring and summer. And now I got a different job so I don't think I have time now anyways with doing my proposal. But I would definitely do it again. I did talk to many of my friends and many of them do data entry and I don't really want to do a research assistantship that consists of mainly data entry. Although, it is rewarding it's still very boring and repetitive. (Julie)

I would like to do data analysis because I enjoy that. I like quantitative research and working with statistics. I would do everything I did...I would do data entry but I wouldn't want to do solely data entry. I would like to do other things as well. (Julie)

It is important to note that although participants showed interest in engaging in future research assistantships, they were looking to advance their research knowledge and avoid repetitive tasks.

Future Educational and Research Plans

Gwendolyn who was in the process of writing her thesis planned to start a doctoral program in September. During the interview, Gwendolyn explained that when she began her master's program, she did not plan to do a PhD. During her graduate work she became passionate about a research topic and decided to continue her educational journey. She voiced her preference in working as a teaching assistant (TA) over working as a research assistant (RA) during her doctoral studies. This preference could be influenced by her previous research assistantship experience.

I'm a little hesitant. I'm going to do my PhD in September and I'm expected to do either an RAship or a TAsip. And I'm praying that they give me a TAsip because then I will be in my comfort zone. I have done quite a few TAsips so I feel comfortable and it is more money. (Gwendolyn)

Julie had no intentions of doing a PhD when she came to the master's program and attributed her potential plans to continue her education to her research assistant experience. Julie explained that she was influenced by the trust the researcher showed in her abilities and by the success of another graduate student working on the project.

I think it was a little bit from the research assistantship because I worked with PhD students and I had a chance to see what happens at the PhD level like conferences or publishing manuscripts. So I saw that I could do this. One of the PhD students that I worked with, she will be defending soon, and she has a family and she teaches here and at a different university so I see all the different roles that she is playing and I see that I could do it. And even the belief that my professor has in me, he really thinks that I could do it and I should do it so I think

that has put a lot of confidence in myself and a change in my thinking that I would never do it. I'm open to doing it and we see what will happen. See where my path takes me. (Julie)

Although Julie was open to the idea of further education, she was hesitant to commit to a plan for her future. She considered gaining work experience and then potentially doing her PhD. Julie had taken a break between her undergraduate studies and master's work and felt that this pause had given her time for reflection. This may have influenced her thoughts of postponing a PhD

I'm still not 100% sure...actually I'm kind of lost but I do know that I want to work in a postsecondary institution. Whether it's a college or university, I want to teach. Obviously I know that if I want to teach at university I have to get my PhD but I don't think I'm quite ready. I don't want to go and get my PhD right after my master's. So what I may do is try to teach first in a college and see how I find it and then potentially go back and get a PhD But as of right now, I'm not sure I want to get a PhD (Julie)

I won't be rushing into getting a PhD but my options are always there so I can go back. And I don't know what's better because if I really want to do a PhD, I almost want to start now when everything is fresh and I know what I'm doing. I can get it done faster and then start a career. On the other side, I want to go out and get some experience.

(Julie)

Sheila was also thinking about taking break before continuing her educational journey.

Actually, I wanted to do the PhD and my professor also asked me about that. He would like me to do PhD-level study but I think I may do that several years later. I would probably do that part time and have many years to finish. But after my graduation I didn't plan to study very soon like right away after graduation, maybe after I have my child (Sheila)

According to Lisa, her research assistantship allowed her to consider the feasibility of conducting future research. At the moment, she was not planning to do a PhD; however, she was dedicated to continue working on research projects.

I thought it was an extremely hard, elite thing...and qualitative research especially. How would you know what to pull out? And what if you completely changed what the person meant? I just thought it was something way out of my league and grasp. (Lisa)

I don't think I would want to lead a research team, I wouldn't like to have that sort of level of responsibility but I like contributing to it. I like the academic conversations; I find them stimulating and worthwhile in a larger sense because I like the topic. I don't think that I could say that for just any research, it would have to be very specific to my interests. And that's what I have heard from my peers who are doing research with other people, if they are not invested in the research or the topic, if it's just for the money they are not getting a lot out of it.

(Lisa)

I think that the project we are doing is very valuable, I think it will be useful when it is published and it just sparks something in me that I can do aside from my work, that is related to my work, that I'm interested in and taking part in, it is

almost...I used to do a lot of volunteer work and I can't really fit that in now and this is sort of my new thing. It would be nice to have this on the side, something that is valuable, I can hopefully work it in with what I do. (Lisa)

I went into the master's thinking it was a paper I needed for job security. If there had been a course route, to be honest, I would have taken it. I wouldn't have done research. However, because I had to do research, I'm glad now that I did. I think I would have missed out on a lot by taking that other route. Part of that was the idea that research was this lofty thing that only incredibly smart people did. And very organized people...yeah! So I guess my ideas of research changed around that and then the RA job changed that even more and let me know that research is accessible. But also, it was good because it made me put a practical side to the academic side. Because before...you know, you come with preconceptions of things and I had always thought that the master's program itself was this lofty theoretical, reading, reading, reading thing. And so to counterbalance that with the actual doing of the research, I think was very important for me. If the master's would have been what I thought it was going to be, I'm not sure I would have stayed. But the research gave me that practical aspect to grab on to that I needed. That's what the RA job has done...put that reading into context. So, it was to get a paper and to get job security. And now, my plans after, are to hopefully stay engaged in research in some way. (Lisa)

Nikka did not plan on continuing her further education. She intended to find a teaching position after completing her master's studies. She reported that she did not have the energy for additional school work.

Summary

The purpose of this research study was to examine how effectively current research assistantships impart research methods, skills, and attitudes; and how well those experiences prepare the next generation of researchers. Through personal interviews, I have explored the perceptions of 7 master's student research assistants regarding their research assistantships, which provided insight about (a) what research knowledge and skills they acquired; (b) what other lessons they took away from the experience; and (c) how the research assistantships influenced their graduate studies and future academic plans.

The findings of this research thesis indicate that research assistantships are beneficial research learning venues. Research assistantships provide space for learning research knowledge and skills; they are practical spaces that can complement theoretical knowledge students acquire in research methods courses. Moreover, research assistantships offer opportunities to build mentoring relationships and learn about academic life. For the participants in this study, the most meaningful research learning occurred when they had opportunities to engage in advanced tasks or activities, such as analyzing data, interviewing, or presenting at a conference. The majority of participants had established meaningful relationships with the researchers and other research assistants. The relationships they established and support they received positively influenced their graduate work and future academic plans.

The theoretical framework of legitimate peripheral participation (Lave & Wenger, 1991) provides insight about the ways the participants learned research knowledge and skills. Lave and Wenger (1991) argue that learning is a “process of increasing

participation and knowledgeability” (p. 84) in communities of practice. Master’s student research assistants learned research by engaging in research assistantships where they worked alongside experienced researchers and senior research assistants. Through participation in research tasks and conversations with “old-timers” (i.e., researchers and senior research assistants), students were exposed to communities of research practice and therefore provided with opportunities to learn research and become researchers.

CHAPTER FIVE: REFLECTIONS AND RECOMMENDATIONS

This qualitative research study examined 7 master's student research assistants' perceptions about their research assistantship experiences. Through personal interviews, participants shared their stories, providing insight on how effectively their research assistantships imparted methods, skills, and attitudes. The question this research study addressed is how effective are research assistantships in preparing competent and confident researchers who are capable of actively participating in the evolving research landscape.

The stories the participants shared with me provided rich information regarding (a) what research knowledge and skills they acquired; (b) what other lessons they took away from the assistantship experiences; and (c) how the research assistantships influenced their master's studies and future academic plans. The findings demonstrate that the participants learned research knowledge and skills. Further, through the completion of assigned tasks and engagement in meaningful conversations with researchers and research team members, participants acknowledged learning about academic life, improving personal skills, and building valuable relationships. Furthermore, research assistantships allowed participants to relate to graduate research courses and reflect on educational and research plans.

As recognized in Chapter Four, there were two main themes that emerged from the experiences of the participants: Relationships and Learning. The emerging theory indicates that these themes are strongly interconnected and complement each other. The relationship dynamics have a significant influence on research knowledge acquisition as well as on overall learning. Frequently, I found it challenging to capture participants'

voices in one specific section without making a reference to another section. In fact, each element fosters the development of research assistants as researchers at different levels. The research assistantships presented students' full potential and provided a holistic experience for the participants when all elements were part of the experience. I envision these elements as a series of interconnected gears where, consistent with the physics and mechanics of gears, each element works in tandem with the others to transmit motion or to change the rate or direction of motion. One gear transfers force to another gear with the aid of its teeth via rotation. This mechanism has the capacity to enhance the force of each gear originating from the root source of power (Khurana, 2009). The research assistantship experiences reported by the participants reflect this type of mechanism: each element has the potential to stimulate the force of another element and therefore maximize the overall research learning experience, which goes beyond learning research knowledge and skills. Figure 5 reflects the interaction of the elements identified in the core experience, taking into consideration the research background of the participants as well as the influence of the research assistantships on participants' master's studies and their educational and research plans.

This chapter is organized in four sections to review and summarize key information provided in Chapter Four. First, I will discuss participants' research assistantship experiences as educational venues. Second, I will examine how the research assistantships influenced participants' master's studies. Third, I will present how research assistantships influenced participants' future educational and research plans. Finally, the last section is dedicated to reflections, recommendations, and potential questions for further research.

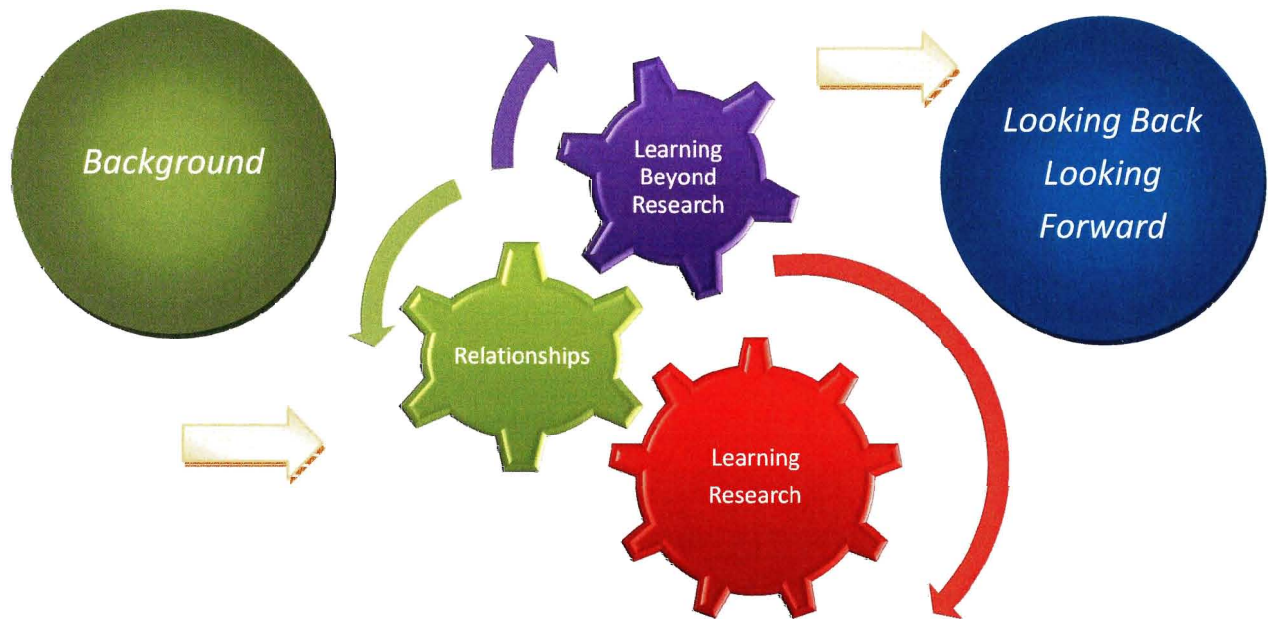


Figure 5. Emerging theory presenting participants' research assistantship experiences.

Educational Research Assistantships

After comprehensively reviewing and reflecting on the findings, I have decided to commence the discussion section by exploring how educational the research assistantships were for the participants. As previously stated in Chapter Four, “educational researchers should ensure that research assistantships be educative” (Strike et al., 2002, p. 152). Grundy (2004) provides evidence in her thesis that graduate research assistants working alongside experienced researchers can acquire research knowledge and skills, increase self-confidence, and experience being part of research communities. Based on my thesis findings, I would add to Grundy’s statement that research assistantships also have the potential to affect graduate students’ studies and their future educational and research plans.

Research Assistants’ Emerging Understandings of Research Assistantships

Considering the participants’ responses regarding why they decided to engage in research assistantships, it is evident that all of the participants had a good understanding of the mission of this research learning venue. Participants identified the following reasons for becoming research assistants: (a) to acquire research skills; (b) to become familiar with professors and their research; (c) to benefit their graduate work; (d) to gain extra money; and (e) to obtain future reference letters. These reasons are validated taking into account that half of the participants enrolled in master’s studies intent on becoming scholars. Therefore, it seems reasonable to assume that these participants were at least somewhat aware of the requirements for doctoral studies. Others, who prior to their research assistantships were not planning to pursue further education, were looking to

acquire research skills that would facilitate the completion of their master's degree requirements.

Three of the participants considered money to be an incentive for engaging in research assistantships. Lisa reported that money was an important factor that encouraged her to become a research assistant and Nikka stated that learning research skills while gaining money was a great opportunity. Without doubt, research assistants should be rewarded for their efforts and contributions to knowledge generation. It is also important to attract graduate students to undertake work in a university environment where they can learn research skills while gaining income. According to Hobson et al. (2005), "in an era where innovation and knowledge production have an increasing value to nations and a financially measurable value to universities, the relative worth, recognition, and remuneration of research assistants might be expected to rise" (pp. 364-365).

It is important to note that although money was the incentive that attracted some master's students to become research assistants, after they were immersed in the projects and began to comprehend the research process, money took a secondary place. The participants' focus shifted from money to the research experience; participants enjoyed working on the projects and expressed a willingness to stay involved even without financial remuneration.

One participant thought that her main role as a research assistant was to assist the researcher to carry out the project while learning research skills by observation. In fact, she prioritized work assigned during her research assistantship over her master's studies. She also mentioned that she would not question the assigned tasks for which she was getting paid. There were other occasions where participants referred to their research

assistantships in terms of employment rather than education. For example, some students worked overtime because they were dedicated to getting the most out of their research assistantship experience. However, two participants reported working overtime because they were not able to complete tasks assigned in the suggested time frame. Lisa, for instance, worked overtime because she believed that she should not charge the researcher for her lack of skills: “I’m not going to charge her because I’m slow or not a typist.”

Participants also spoke about their multilayered relationships with the researchers. A few participants identified that the researcher-research assistant relationship was not the only rapport they had with the researcher. Other affiliations included professor-student and advisor-student. One participant clearly stated that this multiplicity of roles can add tension to the researcher-research assistant relationship and task performance. It is evident that participants approached research assistantships as educational experiences, however, listening carefully to their responses, it became clear that participants also perceived research assistantships to be a form of employment. This could be influenced by participants’ perception of place and power. Hinchey and Kimmel (2000) indicated that graduate students comply with many practices, without challenging them, because of perceived power relationships. The researchers were also professors who were in charge of conferring grades that could affect students’ further education.

During the interviews, participants were asked to indicate reasons for becoming research assistants. Participants’ responses were based on their rationales before they engaged in their research assistantships. They were also asked for the purpose of research assistantships; their responses for this question were shaped by their actual research assistant experiences. Participants provided the following entries as the purpose of

research assistantships: learning research skills, getting a glimpse into academia, building a curriculum vitae (CV), applying theoretical knowledge learned in courses, obtaining reference letters, developing mentoring relationships, assisting researchers to conduct projects, and gaining income within an academic environment. Considering that for the majority of participants it was a first research assistant experience, I was impressed at how well they defined the purpose of research assistantships. I believe that through exposure to research assistantships, participants realized the rich potential this venue has to offer for graduate students.

Providing Educational Experience for Research Assistants

Having discussed participants' approach to the research assistantships, I would like to explore researchers' dedication in providing educative experiences for master's student research assistants. The participants indicated that the majority of the researchers established open communication from the very beginning of the research assistantships. Open communication is understood as effective transfer of information, encouragement to ask questions, and engagement in meaningful conversation. Based on the examples illustrated by participants, open communication provided the foundation for building researcher-research assistant relationships.

Since communication involves talking and listening, some researchers created space for research assistants to express their thoughts, ask questions, and voice potential concerns. A few participants reported that asking questions was not easy because they wanted to avoid looking unwise or disappointing the researcher. Sometimes research assistants would forgo asking for clarification at the expense of investing more time to understand the issue or the assignment on their own. One participant reported that the

only reason she did not ask for clarification was because she was convinced that the researcher believed that she already had the prerequisite knowledge to complete the task. It appears that, for this group of participants, how they were perceived by the researchers was important. Furthermore, participants felt that researchers' opinions of them could both influence and be influenced by previously mentioned multilayered relationships.

Looking from the perspective of meaningful communications, it seems that at times participants did not see the value of an assigned task. For instance, Alison said "The last task that she had me doing was kind of stupid; I had to do the word count of the transcripts. So I had to count every single word and even the conjunctions." This example indicates that the participant was not aware of this task's purpose in the project. This validates my belief that researchers should invest more time to explain the research process and the interconnectedness of different research elements. Lisa spoke about having many informative conversations with her researcher regarding the researcher's decision making, such as selecting a specific method of recruitment or one method of data collection over another. The evidence shows that this kind of conversation should be a part of research assistantships. It would definitely provide novice researchers with a deeper understanding of the various elements of the research process and how these elements connect to and influence each other.

Another element widely discussed by participants was the importance of having clear instructions regarding assigned tasks and clear expectations of their roles as research assistants. Some participants reported having received sufficient information about the study and their role; others wished that they had been better informed. A few participants reported that the researchers provided them with literature related to the

assigned task in order to gain a better understanding of what they were doing and a wider perspective on the research project. Allison appreciated her researcher outlining short-term and long-term goals. And, Lisa was told by the researcher to keep background notes for potential publications, “It’s always been made known that it [publishing] would come in the future, so to keep background notes.”

Further, based on participants’ comments, it is necessary to address the distribution of hours. The possibility for uneven distribution of research assistantship hours should be clearly stated from the beginning of the contract so research assistants can give consideration in their graduate school agenda. Gwendolyn shared her experience where the researcher ran out of work for her. When he was ready to finally assign tasks, she was too busy writing her thesis proposal.

I believe that open communication made research assistants feel like part of the team and like contributors to the research. Hobson et al. (2005) state that often research assistants are “silenced partners” in knowledge generation who receive little recognition. On that note, Allison admitted that she was not interested in research assistantships where she would do someone else’s work without seeing any benefits for herself. According to social exchange theory, individuals seek, develop, sustain, or end relationships based on their perceptions of the potential benefits and costs of the relationship (Emerson, 1981). Considering Allison’s statement, it is evident that she was committed to assisting the researcher, but was seeking fair recognition for her efforts and contributions to the research project.

Open communication as well as considerate actions and caring on behalf of the researchers contributed to the development of respectful relationships. For example,

Allison described how the researcher trusted her with purchases made from the research account, provided her with office space, and posted her name in front of the office. While these actions could appear trivial to some, they made Allison feel welcomed and valued as a team member. All participants reciprocated the trust and respect that was shown to them by the researchers.

Before moving to the next section, I would like to present a citation that, for me, captures the essence of a researcher's commitment to a mutually beneficial research partnership. Although the author of this citation refers to field assistants hired when working abroad, his approach can be adapted for graduate students.

In working with research assistants, I have found it important to explain the project objectives (I give them my proposal), methods, and what my expectations are of them as assistants. But I also try to find out about their expectations and solicit their advice on the research project, especially from assistants who have done research before. Since I know I am going to rely heavily on them, I think of them as partners, not simply employees. In the course of the research, I try to create an atmosphere of mutual learning and shared experiences between myself and my assistant(s) and also among them if there is more than one assistant.

(Barrett & Cason, 1997, p. 87)

This citation illustrates key elements of educational research assistantships, such as the importance of a mutual statement of expectations at the beginning of the project, explanations related to multiple components of the research study, and equal collaboration with the intention of reciprocal learning.

Building Relationships

One participant came to her research assistantship having already established a mentoring relationship with the researcher through her undergraduate work. Other participants built relationships with the researchers during their research assistantships. While one participant reported that she had established open communication with her researcher in the initial stages of the project, the lines of communication were interrupted when the researcher had no more tasks to assign. This disruption in communication resulted in disappointment on the part of the research assistant and eventually brought about the end of the research assistant-researcher relationship.

Julie believed that she was hired as a research assistant because the researcher knew her, trusted her, and considered her to be competent to complete the research tasks he planned to assign. She also mentioned that the researcher probably would not hire someone he did not know or trust to do the work. Katerina reported being contacted by the researcher because he was looking for someone with a strong theoretical background, which he knew Katerina possessed. Lisa spoke about the researcher being excited to hire her as a research assistant because she had extensive knowledge of the research topic. All of the above cases reflect the Ethical Standards of the American Educational Research Association (Strike et al., 2002), which state that the selection of student researchers should be based on their competence and their potential research contributions. Personally, I believe that the opportunity to become a research assistant should also be given to students who have no research skills but are eager to acquire new skills. It is obvious that graduate students have to start their research experience somewhere and

should not be seen as unqualified for research assistant positions, which could be designed as training venues to acquire research knowledge and skills.

Some participants considered the duration of their research assistantships as a limitation in developing relationships with the researchers. Yet it was also evident from Julie's and Allison's stories that a 40-hour contract could facilitate longer relationships. Julie spoke about entering her research assistantship having already established a trustworthy relationship with the researcher from her undergraduate work. Allison worked with the same researcher on two consecutive research assistantships, extending the contract and thereby eliminating some of the potential time constraints. Although the length of a contract may affect building a relationship and getting to know the researcher, 40-hour research assistantships can provide the space to initiate long-lasting relationships.

Foa and Foa (1974) presented six categories of social exchange that are relevant to mentoring relationships: emotional support, status, information or skills, money, goods, and services. Some of these categories are reflected in the voices of the participants. Open communication, clear instructions, and support formed a foundation for the mentoring relationships that, in some instances, developed between the researchers and the research assistants. Three of the participants considered senior research assistants working on the projects to be mentors, a topic to which I return below.

The Influence of Research Assistantships on Master's Studies

A few participants described their research assistantships as experiences that contributed to their graduate work. During research assistantships, participants had the opportunity to acquire diverse research skills that were (a) helpful in terms of their

academic courses, and (b) crucial to the completion of their research exit requirements. Some of these skills included completing research ethics applications, interviewing, transcribing, analyzing data, conducting literature reviews, looking for references, and preparing charts and tables. By providing opportunities to learn these skills, research assistantships potentially advanced participants' successful and timely completion of their degree requirements.

Some of the researchers invested time and crafted space for transferring skills that were not required for the research assistantship itself, but would benefit the research assistants' graduate work and completion of their degree requirements. Allison described one such educational experience: the researcher did a mock interview designed to expose her to the interviewing process. Further, Allison mentioned that the researcher motivated all research assistants working on her project to attend workshops to learn research skills as a part of their research assistantship contracts.

In addition to learning research skills, a few participants spoke about building personal skills such as punctuality, independence, organization, and attention to detail. One participant described having become more independent and mature because she was treated as an adult responsible for completing various tasks. These characteristics appear essential when writing a thesis or project.

Five participants described having some research background before their research assistantships. A few participants spoke about the research knowledge they acquired through research courses and how their research courses and research assistantships complemented each other. Katerina and Julie attributed learning research knowledge and skills to their research assistantship experiences. However, they both

recognized the value of research courses and previous research experience at the undergraduate level. Two of the participants reported having no research experience prior to their research assistantship.

Lisa declared that research knowledge gained from her courses encouraged her to engage in a research assistantship and helped her to complete tasks assigned during the research assistantship. On the other hand, Allison stated that it was easier for her to relate to research courses because of her research assistantship experience. Julie commented that her research assistantship prepared her immensely for her own research project. The research skills she learned during her research assistantship made her feel more confident and less stressed about doing her own thesis research. Further, she added that her research assistantship left her feeling better prepared to conduct research than she felt after her research courses. These are great examples of the transfer of theoretical knowledge into practice. Moreover, participants' responses show that both research assistantships and graduate-level courses, as research-learning venues, have potential to complement each other and add to graduate students' experience.

Some of the tasks that research assistants were exposed to were, for them, first-time experiences. For example, Katerina, Lisa, and Sheila reported that their research assistantships presented their first opportunities to experience transcribing. Although some research skills were delivered in research courses, most of the participants expressed that research skills are best learned in a practical environment. Having hands-on experience not only allowed participants to put the theoretical knowledge they learned in their coursework into practice but also allowed them to become more confident in their abilities to complete their degree requirements. Some participants recognized that gaining

research skills increased their confidence as researchers. Lisa elaborated that her increased confidence was not only due to learning research skills but also to making sense of the entire research process and understanding the interconnection of various research elements.

The following citations speak to how two of the participants, Katerina and Julie, felt research assistantships contributed to their graduate work.

I think I would have struggled. It would be a lot about trial and error. And now I feel like I'm prepared to start my research because of my research assistantships.
(Katerina)

I think it's so different being taught research and then actually doing it yourself. I think that's so important because I will feel less stressed when I do my project compared to someone who hasn't been an RA. (Julie)

As mentioned previously, research assistantships provided a practical space for students to exercise the theoretical content covered in research courses. There was another beneficial connection between the two research learning venues. Julie decided to carve part of the research project from her research assistantship as her MEd project and was permitted to use the existing database.

The majority of participants established great communication with their researchers and shared meaningful conversations that went beyond the projects for which they were contracted. In fact, many conversations were about the research assistants' graduate work. These conversations provided opportunities for research assistants to ask questions and seek advice related to their master's studies. Research assistants gained

valuable insight that they were able to apply in their graduate schooling. For instance, two participants gained information about finding and changing research advisors.

Participants recognized the value of honest discussions and feedback. Katerina shared the story of when the researcher questioned her choice of master's thesis research topic. She admitted feeling discouraged by the researcher's comments and not being prepared to defend her choices. At the same time, the researcher's comments stimulated her to reflect on her research area and caused her to think about how to be an advocate for own research. This example illustrates how some unpleasant or unexpected comments can still be constructive.

Participants shared many inspiring educational stories during the interviews. Julie expressed being grateful to have more than one mentor in her graduate studies. She considered her advisor, the researcher, and the senior research assistant on her project to be mentors to whom she could refer for help. According to Kelly and Schweitzer (1999), "mentoring is considered to be the heart of graduate education" (p. 130). Katerina spoke about a senior research assistant that she considered to be a mentor. The senior research assistant, having more research experience, assisted Katerina with completing assigned tasks for the project as well as with her graduate work:

[This research assistant] kind of took me under her wings and really helped me out. So it was almost like she was my mentor.

To summarize, research skills gained during research assistantships appeared to be helpful in moving forward with master's students' successful completion of degree requirements and provided a practical space for students to exercise the theoretical content covered in research courses. Further, conversations with other researchers

provided space for the participants to inquire and discuss diverse aspects of their graduate studies.

The Influence of Research Assistantships on Future Educational Plans

This section looks at research assistantships as research learning venues that have the potential to influence graduate students' future educational plans. Positive research assistantship experiences can demonstrate that research is accessible and can encourage graduate students to pursue further education. At the same time, less positive experiences can push students away from the research environment.

Some participants initially perceived research as a tough component of graduate education. At first, Lisa thought that research was a complex process accessible only to a select group of people. However, engaging in a research assistantship allowed her to grow as a researcher and shifted her view significantly.

What it really developed, for me, was it took away the mystique of [research].

Because I had thought that research... was an extremely hard, elite thing...and qualitative research especially. (Lisa)

Other participants were also influenced by their research assistantships. A few participants became more open to research opportunities, including deciding to do a thesis over a project, being interested in working on other research projects, and considering doctoral studies.

For some participants, the entire research cycle appeared complex; for others, only certain aspects were unapproachable. For instance, Katerina and Julie were intimidated by the very word "manuscript." Having a chance to review and edit

manuscripts for their researchers diminished the intimidation factor of this word and most importantly gave Katerina and Julie confidence that one day they too might be published.

The acquisition of research skills and knowledge is central to research assistantships. However, research assistantships as learning venues have more to offer. They provide the opportunity for students to establish mentoring relationships, build curriculum vitae (CVs), and obtain reference letters. These elements are important factors when applying for scholarships, research funding, and doctoral studies. The researchers who work with research assistants and become familiar with their work ethics, research capabilities, and contributions are in a position to provide valuable reference letters.

Another important benefit that research assistantships can offer is the exposure to a research community. Participants spoke about opportunities to prepare research presentations, present at conferences, and contribute to publications. Through these experiences, research assistants were able to observe and interact with other researchers. Lave and Wenger (1991) argue that learning does not happen exclusively through engagement in diverse tasks or activities; it also occurs through engagement in socio-cultural communities.

Learning involves the whole person; implies not only a relation to specific activities, but a relation to social communities—it implies becoming a full participant, a member, a kind of person. In this view, learning only partly—and often incidentally—implies becoming able to be involved in new activities, to perform new tasks and functions, to master new understandings. (p. 53)

For the participants who indicated an interest in pursuing doctoral studies and becoming academics, publication and presentation opportunities during their

assistantships were vital. Julie, Allison, and Lisa expressed their excitement and gratitude for these opportunities because they allowed them to take ownership for their involvement in projects and instilled in them a sense of accomplishment for their efforts.

Katerina shared a less positive story about how she was discouraged by a researcher's comment that master's students should not be concerned with "getting published or going to conferences." Katerina, interested in pursuing an academic career, approached the researcher and asked about the possibility of publications resulting from the project. At that moment, the researcher explained that she should not be thinking about publications during her master's studies. However Katerina heard the opposite message in her graduate courses, where the importance of presenting at conferences and publishing was emphasized. This experience left her confused and disappointed. She interpreted the researcher's comments as an indication that she did not consider her capable of taking on these research activities.

Research assistantships also offered participants the opportunity to gain insight into academia. The participants who planned on becoming academics were very appreciative for a chance to explore, through conversations with researchers, what being a professor entails. Sometimes their original ideas regarding the role of scholars were different than the reality reported by the researchers. Acquiring rich information about academic careers allowed participants to make informed decisions about their future plans.

The information researchers shared with the research assistants and the encouragement they provided regarding participants' academic abilities seemed to have a great impact on participants' decision-making processes. The majority of participants

seemed to give significant weight to researchers' suggestions. Lisa, Allison, Julie, and Katerina reported having many conversations with the researchers about their academic futures. They appreciated the realistic picture that the researchers shared with them about doctoral studies. Julie spoke about the researcher encouraging and motivating her to complete a thesis over a project, indicating that she would be a great candidate for doctoral work. Katerina expressed that her research assistantship research topic was so exciting that it made her reconsider the research topic she had previously chosen for doctoral work. She also considered asking the researcher to become her PhD advisor.

The development of researcher-research assistant mentoring relationships is evident in the experiences of the participants. According to Johnston and McCormack (1997), mentoring in graduate education is a key factor in the growth of future scholars. It is important to recognize that graduate students look up to researchers as accomplished scholars who can expose research assistants to the value of research. Researchers can build research assistants' confidence as researchers or discourage them from further engagement in research projects.

Just having this person that I think is incredibly accomplished and intelligent listening to me and being interested in what I have to say ...So to have this person that seems to enjoy our conversations and get things out of them I think gave me a lot of confidence in myself and in my own opinions and in expressing them.

(Lisa)

Interestingly, in a few cases, participants recognized senior research assistants as mentors. Due to their advanced research knowledge and progress in graduate work, senior research assistants were perceived as role models who influenced participants'

future educational plans. Julie reported getting assistance and guidance from a senior research assistant working on a project. Through the stories the senior research assistant shared, Julie became more aware of what doctoral studies involve and recognized that a PhD was something that she might pursue in the future.

Lisa met with the researcher only, however she was aware that there were other research assistants on the team whom she never met. During the interview, Lisa expressed an interest in meeting the other team members and having an opportunity to discuss various elements of the project with them instead of being limited to conversations with the researcher. She felt that it would be beneficial for the whole team to come together and exchange ideas, discuss the various research components people were working on, and see how these components were related. Lisa elaborated that communication with the other graduate students would allow her to express difficulties or frustrations encountered during the project. Similarly, Sheila voiced the need for a space where research assistants could share their experiences and learn from one another.

A few participants expressed appreciation when their research assistantships' research topics were related to the topics they had chosen for their exit requirements or had considered for future doctoral studies. Their responses stimulated me to reflect on how fundamental the research topic is to the whole process of learning research. Working on a familiar research topic may be perceived as a more attractive experience for research assistants, particularly when it can contribute to their own graduate work. Yet, research assistants should be aware that research assistantships are about learning research skills and knowledge and this can be achieved through engagement in novel research topics.

It is also important to recognize that exposure to new topics can broaden and define research assistants' research interests. Students should not limit themselves to research assistantships related to familiar research areas. Instead, they should be open to enriching their current research experiences. Engagement in diverse research areas and varied methodologies can expose master's students to new opportunities that can fascinate them and spark new areas of interest for future endeavours such as doctoral work.

Recommendations and Conclusions

This thesis is intended to broaden and deepen understanding regarding research assistantships as research learning venues for master's students. It is important to recognize that the data are limited to the responses of 7 students from the Faculty of Education at one Ontario University, however, I do believe that the findings of this study can have wider application for graduate students. The emerging theory reflects a particular practice grounded in reality and as a result the findings are relevant to that practice. The findings provided basis for an emerging substantive theory rather than a formal theory since it has not been tested on a broader range of practices.

This thesis aims to be a resource for experienced researchers who have worked with many research assistants as well as those researchers who are planning on hiring their first research assistant. Nyquist and Wulff (1996) note that "most supervisors rely on their personal, but often limited, experience as their only guide in the area of graduate student supervision" (p. 2). This thesis is meant to encourage researchers to reflect on how they can invest time to transfer research knowledge and skills to research assistants and how to go beyond the research assistantship contract to establish long-lasting

mentoring relationships. Further, the thesis is intended to inform experienced and novice research assistants about what to expect from a research assistantship, how to approach a research assistantship to make the most of the experience, and why it is important to seek out and commit to researcher-research assistant mentoring relationships. I hope this thesis will contribute to the enhancement of research assistantship opportunities as a means of developing skilled future researchers that in turn will benefit Canada as an emerging leader in research and development.

I propose several recommendations that derive from the results of this research study for graduate students, researchers, and departments in charge of organizing research training. First, I recommend that graduate students take advantage and engage in research assistantships as venues to learn research. As shown in this thesis, research assistantships can provide space for learning about research and other aspects of academic life. Second, I advise students to communicate their interests in a project and their expectations at the beginning of an assistantship. This permits researchers to understand students' objectives and craft research tasks to meet these objectives and maximize students' development as researchers. Further, it is essential to maintain open communication throughout the research assistantship. Asking questions and seeking clarifications promotes research learning and eliminates time consuming guessing. Third, I recommend that students commit to the research learning process. Learning research also involves doing mundane tasks, which are valuable and necessary steps in the research process. However, these tasks should not be the sole focus of a research assistantship. In case of being assigned only mundane tasks, I suggest that research assistants communicate to researchers the commitment to advance their research

knowledge and their interest to take on more advanced activities. Moreover, working on research projects that address research topics related to students' planned thesis work can be advantageous but should not limit students' options for research assistantships. The exposure to new topics can broaden and define students' research interests as well as enhance their current research experiences. Finally, I encourage dedication to building a strong relationship with the researcher and other team members. It is evident in this thesis that the relationships participants established with their researchers and other research assistants positively influenced their master's studies and their future academic plans.

For researchers who actively work with research assistants as well as for those who are planning to work with research assistants, I recommend devoting attention to their important role in the experiences of graduate students. The researchers can contribute to the development of graduate students as researchers as well as inform and empower their future educational and research decisions. Second, I encourage researchers to invest time in explaining research steps and how they relate to each other when assigning research tasks. It is fundamental that students understand each task they undertake and do not perceive tasks as isolated or meaningless. As articulated in this thesis, participants appreciated meaningful conversations with the researchers regarding the dynamics of the research process and concerning researchers' decision making. Understanding the interconnectedness of research steps led to participants' research appreciation. Third, I encourage researchers to go beyond their standard practices and investigate effective practices in educating the next generation of researchers.

Based on the results, recommendations can be made for departments that implement decisions regarding graduate students' research training. First, I recommend

that departments create spaces for researchers and graduate students to share research interests. The participants learned research knowledge and skills through engagement in diverse research tasks that allowed them to observe and collaborate with the researchers and other team members as well as work individually. I encourage departments to organize social functions where students can learn about opportunities for collaborative research in larger groups and cross-department research assistantships. Second, departments should consider designing spaces where graduate students can share their research assistantship experiences. It is evident from this thesis that students found it relatively easy to express their concerns and ask for guidance in a peer environment. A few participants identified senior research assistants as mentors, which indicates the importance of promoting communication between master's and doctoral students. Third, I recommend that departments introduce a confidential evaluation where research assistants can provide their appraisal of each research assistantship as a learning experience, offer suggestions for improvement, and express potential concerns or disappointments.

Based on my findings, I would like to highlight a few aspects worth further consideration. First, I believe that greater attention should be paid to the quality of transferring research knowledge and skills to research assistants. Many master's students could choose to continue their education and become scholars if exposed to positive experiences during their master's studies. In order to be successful, they need concrete preparation to become independent and competent researchers. Second, having acknowledged that some research assistantship experiences are less successful than others and leave research assistants feeling disappointed, there is a need to evaluate the

experiences of research assistants more regularly. Third, research examining the experiences of research assistants, including this thesis, may lead to changes in policies, requirements, and practices.

Through undertaking this research, I have learned that research assistantships are holistic experiences where relationships and learning are very much interconnected. Research assistantships have the potential to serve as venues where research assistants become researchers, if these elements are addressed and both research partners are dedicated to a mentoring relationship. As stated in the introduction, Canada's new research landscape requires effective, quality-oriented preparation of research assistants. Research assistants need to be exposed to a variety of experiences where they can engage intellectually in research tasks and gain insight into research communities. The experiences of my participants illustrate that research assistantships are valuable educational venues that can not only promote research learning but can also benefit research assistants' master's studies and influence their future educational and research plans. For the most part, my participants recounted stories of successful research assistantships, however "the biggest room in the world is the room for improvement" (unknown author).

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Appendix A

Brock University Research Ethics Board Clearance



**Brock
University**

Office of Research Services

Research Ethics Office

St. Catharines, Ontario, Canada L2S 3A1

T: 905-688-5550, Ext. 3035/4876 F: 905-688-0748

www.brocku.ca

DATE: April 2, 2009

FROM: Ann Marie DiBiase, Acting Chair
Research Ethics Board (REB)

TO: Michelle McGinn, Education
Ewelina Niemczyk

FILE: 08-257 MCGINN/NIEMCZYK
Masters Thesis/Project

TITLE: Expanding the research horizon in higher education: Master's students' perceptions of research assistantships

The Brock University Research Ethics Board has reviewed the above research proposal.

DECISION: ACCEPTED AS CLARIFIED

This project has received ethics clearance for the period of **April 2, 2009 to August 31, 2009** subject to full REB ratification at the Research Ethics Board's next scheduled meeting. The clearance period may be extended upon request. ***The study may now proceed.***

Please note that the Research Ethics Board (REB) requires that you adhere to the protocol as last reviewed and cleared by the REB. During the course of research no deviations from, or changes to, the protocol, recruitment, or consent form may be initiated without prior written clearance from the REB. The Board must provide clearance for any modifications before they can be implemented. If you wish to modify your research project, please refer to <http://www.brocku.ca/researchservices/forms> to complete the appropriate form Revision or Modification to an Ongoing Application.

Adverse or unexpected events must be reported to the REB as soon as possible with an indication of how these events affect, in the view of the Principal Investigator, the safety of the participants and the continuation of the protocol.

If research participants are in the care of a health facility, at a school, or other institution or community organization, it is the responsibility of the Principal Investigator to ensure that the ethical guidelines and clearance of those facilities or institutions are obtained and filed with the REB prior to the initiation of any research protocols.

The Tri-Council Policy Statement requires that ongoing research be monitored. A Final Report is required for all projects upon completion of the project. Researchers with projects lasting more than one year are required to submit a Continuing Review Report annually. The Office of Research Services will contact you when this form *Continuing Review/Final Report* is required.

Please quote your REB file number on all future correspondence.

MM/an

Appendix B:

Information Letter

LETTER OF INVITATION

Title of Study: Expanding the research horizon in higher education: Master's students' perceptions of research assistantships

Principal Student Investigator: Ewelina Niemczyk, student, Faculty of Education, Brock University

Thesis Advisor: Dr. Michelle McGinn, Associate Professor, Department of Graduate Studies in Education, Brock University

Dear potential participant,

I, Ewelina Niemczyk, MEd student, from the Faculty of Education at Brock University, invite you to participate in a research study entitled *Expanding the research horizon in higher education: Master's students' perceptions of research assistantships*. This research study constitutes partial fulfillment for the degree of Master of Education.

Purpose of the study

The purpose of this research study is to explore master's students' perceptions about their research assistantships. Graduate students are the next generation of researchers and scholars, therefore it is crucial to understand their development as researchers. Research assistantships are one of the few opportunities for master's students to exercise their theoretical knowledge in a practical environment. Ideally, research assistantships offer an opportunity for students to increase their learning and autonomy as researchers.

What the study involves

As a participant, you will be invited to participate in the personal interview and share your research assistantship experience(s).

The study uses qualitative research method. I will conduct 6-10 face-to-face interviews with master's students from the Faculty of Education who have completed one or more research assistantships. The session will be recorded and then transcribed verbatim. At the completion of each transcribed interview, I will send the transcripts to the participants, who will have an opportunity to verify their adequacy. At that point, I may have follow-up questions, depending upon the content of the first interview and my emerging analyses. Furthermore, participants will be able to volunteer additional information that may be stimulated by their reflection. Participants' comments will serve to validate and extend my interpretation.

The following questions will guide the interview:

1. How would you describe each of your research assistantships?
2. What activities (tasks) did you engage in and how did they contribute to knowledge generation?
3. How have your research assistantship experiences contributed to your research learning process?
4. What did you learn during the research assistantships beyond the research?
5. What are your future academic plans and do these plans include research?

Duration

The interviews (including signing the informed consent form) will take approximately 1 hour and will be held on campus. I will accommodate timing convenient for the participants.

Compensation

As a token of appreciation, to compensate for your time and contribution to my study, I will offer you a \$20 gift card (choice between a gift card to Tim Hortons or Chapters). You will receive compensation after the interview and will be able to keep the reward even if you decide to withdraw from the study.

Benefits and risks

Possible benefits include the opportunity to express your insights and voice your concerns regarding research assistantships. Through the summary of my research thesis, you can also learn about other students' research assistantship experiences. The experiences of others may motivate you to undertake new research assistantships or perceive your previous experiences from a new perspective. I am prepared to provide a summary of my research thesis if you indicate your interest on the consent form.

There is a possibility that research assistantship(s) have been a negative experience for some participants. Therefore, they might feel discomfort or be upset talking about some aspects of their experience. According to the individual situation, I will try to mitigate any potential discomfort. If any participant requests support working through any challenging circumstances faced during a research assistantship, I will direct that individual to appropriate policies or resource people.

Voluntary participation

As a participant in this research study you have the right to withdraw your data at any time without any penalty. Feel free to contact me electronically and your data will be retrieved and destroyed to respect your decision. You will be able to keep the reward.

In addition, you will receive full transcripts of your contributions in order to have the opportunity to clarify information or withdraw any statement you are not comfortable with.

Confidentiality

All the information you provide during the audio-recorded interview is considered confidential. Your name will not be included or associated with the data collected in the study, however, with your permission, anonymous quotations may be used. During the transcription process names will be replaced with pseudonyms. A research thesis will be written based on the transcripts, however, no one's name will be associated with the data.

Access to data collected during the study is restricted to my thesis advisor and me. All data and records will be kept until the completion of the research thesis (scheduled for September, 2009). All data will be stored in a secure place at the principal student investigator's house for no more than 3 years after the project concludes to allow publication opportunities.

Contact email addresses for those individuals who request a copy of the summary of my research thesis will be retained (until the completion of the research thesis).

If you have any pertinent questions about your rights as a research participant, please contact the Brock University Research Ethics Officer (905 688-5550 ext 3035, reb@brocku.ca). **This study has been reviewed and received ethics clearance through Brock University's Research Ethics Board (file # 08-257).**

It is my priority to provide you with all the details and make the process of the study very clear so you feel comfortable and knowledgeable before deciding to participate. If you have any questions, please feel free to contact me.

Thank you,
Ewelina K. Niemczyk
Principal Student Investigator

Dr. Michelle K. McGinn
Associate Professor

Appendix C Consent Form

INFORMED CONSENT

Date: June 30, 2009
 Project Title: Expanding the research horizon in higher education: Master's students' perceptions of research assistantships

Principal Student Investigator: **Ewelina Niemczyk**
 Faculty of Education
 Brock University

Thesis Advisor: **Prof. Michelle McGinn**
 Department of Graduate Studies in Education
 Brock University

INVITATION

I would like to invite you to participate in a research study to explore master's students' perceptions about their research assistantships. This research study constitutes partial fulfillment for the degree of Master of Education.

WHAT'S INVOLVED

As a participant, you are invited to participate in a personal interview and share your research assistantship experience(s). The interview will be loosely structured around five open-ended questions. Participation will take approximately 1h of your time. The session will be audio-recorded, however, all information you provide will be considered confidential. The interview will be recorded and then transcribed verbatim. I will forward to you the transcript electronically so you will have an opportunity to verify its adequacy and provide additional information that may be stimulated by reflection. At that point, I may have follow-up questions, depending upon the content of the first interview and my emerging analyses.

POTENTIAL BENEFITS AND RISKS

Possible benefits include the opportunity to express your insights and voice your concerns regarding research assistantships. Through the summary of my research thesis, you can also learn about other students' research assistantship experiences.

In case, sharing your research assistantship experiences makes you feel uncomfortable or upset we can take a break at any time or move to the next question. If you would require any support working through any challenging circumstances faced during your research assistantship(s), I would be happy to direct you to appropriate policies or resource people.

CONFIDENTIALITY

All the information you provide during the audio-recorded interview is considered confidential. Your name will not be included or associated with the data collected in the study, however, with your permission, anonymous quotations may be used. During the transcription process names will be replaced with pseudonyms. A research thesis will be written based on the transcripts, however, no one's name will be associated with the data.

Access to data collected during the study is restricted to my thesis advisor and me. All data and records will be kept until the completion of the research thesis (scheduled for September, 2009). All data will be stored in a secure place at the principal student investigator's house for no more than 3 years after the project concludes to allow publication opportunities.

VOLUNTARY PARTICIPATION

As a participant in this research study you have the right to withdraw your data at any time without any penalty. Feel free to contact me electronically and your data will be retrieved and destroyed to respect your decision. You will be able to keep the reward. In addition, you will receive full transcripts of your contributions in order to have the opportunity to clarify information or withdraw any statement you are not comfortable with.

COMPENSATION

As a token of appreciation, to compensate for your time and contribution to my study, I will offer you a \$20 gift card (choice between a gift card to Tim Hortons or Chapters). You will receive compensation after the interview and will be able to keep the reward even if you decide to withdraw from the study.

PUBLICATION OF RESULTS

Based on the results of this study I will write my thesis. I also intend to present this research at conferences (e.g., Brock University or the Canadian Society for the Study of Higher Education, and maybe publish an article). Please, indicate in the section below if you are interested in receiving a summary of my research thesis. I will forward a copy electronically upon the defence of my thesis (anticipated for September 2009). Are you interested in receiving the summary of my thesis? Please, check the appropriate box.

☐ Yes ☐ No

CONTACT INFORMATION AND ETHICS CLEARANCE

If you have any questions about this study or require further information, please contact the principal student investigator or the thesis advisor using the contact information provided above. This study has been reviewed and received ethics clearance through the Research Ethics Board at Brock University (file # 08 - 257). If you have any comments or concerns about your rights as a research participant, please contact the Research Ethics Office at (905) 688-5550 Ext. 3035, reb@brocku.ca.

If you have questions or concerns about your research assistant experience, talk to your advisor or research assistant supervisor. You may also wish to consult any of the following policies or resource people:

Respectful Work and Learning Environment Policy
Ownership of Student Created Intellectual Property Policy
Personal counselling through the Student Development Centre
Department Chair
Human Rights and Equity Officer
Student Ombudsperson
Senior Research Ethics Officer

Thank you for your contribution to my research study. Please keep a copy of this form for your records.

CONSENT FORM

I agree to participate in this study described above. I have made this decision based on the information I have read in the Information-Consent Letter. I have had the opportunity to receive any additional details I wanted about the study and understand that I may ask questions in the future. I understand that I may withdraw this consent at any time.

Name: _____

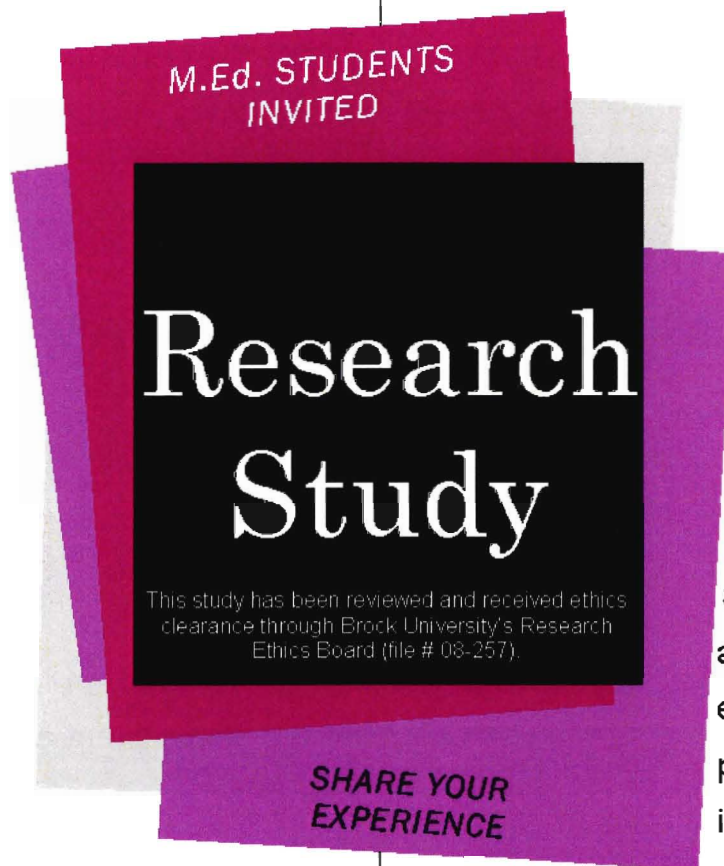
Signature: _____

Date: _____

Appendix D

Recruitment Flyer

Title of Study: Expanding the research horizon in higher education: Master's students' perceptions of research assistantships



Purpose of the study

To explore master's students' perceptions of their research assistantships.

What the study involves

Share your research assistantship experience(s) in a personal 1 hour interview.

Compensation

To compensate for your time and contribution to my study, I will offer you a \$20 gift card (choice between Tim Hortons or Chapters).

It is my priority to provide you with all the details and make the process of the study very clear so you feel comfortable and knowledgeable before deciding to participate. If you are interested contact me:

Ewelina Niemczyk or Dr. Michelle K. McGinn

Appendix E

Open Codes From an Interview Transcript Excerpt

Open Codes	Excerpt from Interview Transcript
<p>Employment or educational experience</p> <p>Tasks performed and skills acquired</p> <p>Pivotal moments – building confidence and skills</p>	<p>E: As you tell me about your experience, I heard you mention gaining more confidence, having more open communication with the researcher ... What do you think about your development as researcher, what elements contributed to that progress, to that development?</p> <p>L: I can think of a couple of different times, one would be when I had taken the first transcript through the entire cycle. So I had transcribed it, we analyzed it, coded it. I also made the synopsis sheet then, that's for the participants but I also made a coding sheet that's for our use. You can just look at the front and pick up some major codes that have been identified as areas that might be publishable. So I could see the whole package and see the purpose of all the steps then send it out to all the participants, who sent it back and said great, no problem just clean up the likes and the hmmms and I'm happy. So that gave me a lot of confidence because before that I was only seeing it in a piecemeal sort of approach, we are going to transcribe and transcribe a whole bunch of them, then go back and code and in a different order. So the first full cycle gave me a lot of confidence. She liked it, the professor was happy with my work, the participant was happy with what we did, the synopsis and how we have portrayed him. So that made me feel a lot better in doing the future ones. The other big moment would be when we presented at the conference. It was still very early in phase two of the project, we had lots of data from phase one, and for phase two I think we had coded five but I was able to pull out really salient points, quotes that we could use to back up the information that was in phase one. I guess, first of all being asked to go and speak, that in itself was an honour, speaking with a professor, feeling slightly out of my league as I said...At first I thought, you are talking about a phase that I wasn't even involved in and so that was a really big turning point to see that the presentation went really well. I just needed the confidence in myself, the professor kept saying you will be fine, you read the published article, we have talked about it, you know the work, you made the PPT so what's the problem here. And they asked some questions and I was able to answer them. People came up to make comments and ask questions at the end, it was a break-out session, and people throughout the conference, who I met over coffee, said I was at your session, it was really good and it made me think of such and such...So that was a huge point for me, not being an academic, if you like, to be in that circle and to be recognized.</p>

Appendix F

Complete List of All Open Codes

Communication during RAship	Research team composition
Did RAship meet your expectations	RAship and other students perceptions
Discouraging experiences	RAship impact on MEd program
Employment or educational experience	RAship vs research courses
Finding advisor	Relationship with researchers after contract
Future academic plans	Research background
Future RAships	Researchers expectations
Hours dedicated to RAship	Stage in the MEd program
How did you find out about RAship	Tasks performed and skills acquired
Learning beyond research aspect	Was RAship connected to your own research
Meeting as a research team	What is the project about - first meeting
Mentoring relationship and support	What is the purpose of RAship
Number of RAships	What would you improve about RAship
Pivotal moments - building confidence and skills	Where do you learn research
Potential conferences and publications	Why did you engage in RAship

Appendix G

From Open Coding to Axial Coding

Casual Conditions

How did you find out about RAship
 Number of RAships
 RAship and other students perceptions
 Research background
 Stage in the MEd program
 Where do you learn research
 Why did you engage in RAship

Core category

Tasks performed and skills acquired

Context

Future academic plans
 Research team composition
 Meeting as a research team
 Hours dedicated to RAship
 Researchers expectations
 Was RAship connected to your own research
 What is the project about - first meeting

Strategies and Intervening Conditions

Communication during RAship
 Employment or educational experience
 Discouraging experiences
 Finding advisor
 Learning beyond research aspect
 Mentoring relationship and support
 Pivotal moments - building confidence and skills
 Potential conferences and publications
 RAship vs research courses

Consequences

Did RAship meet your expectations
 Future academic plans
 Future RAships
 RAship impact on MEd program
 What is the purpose of RAship
 What would you improve about RAship